NOTE I.

CARCINOLOGICAL STUDIES IN THE LEYDEN MUSEUM.

BY

Dr. J. G. de MAN.

N°. 5. 1)

(Plate 1—4).

LIST OF SPECIES.

Actaea rugata *Ad. & White.*
Actaeodes pubescens *M. E.*
Etisus anaglyptus *M. E.*
Etisodes frontalis *Dana.*
Epixanthus corrosus *A. M. E.*
» subcorrosus, n. sp.
Cardisoma quadratum *de Sauss.*
Gelasimus vocans *M. E.*
» tetragonon *Herbst.*
» Dussumieri *M. E.*
» arcuatus *de Haan.*
» coarctatus *M. E.*
» forcipatus *Ad. & White?*
» Urvillei *M. E.*
» signatus *Hess.*
» » » , *var.* angustifrons *de Man.*
Gelasimus annulipes *Latr.*
» Gaimardi *M. E.*
» chlorophthalmus *Latr.*
» inversus *Hoffm.*
» triangularis *A. M. E.*
var. variabilis *de Man.*
Metopograpsus messor *Forskăl*, *var.* gracilipes *de Man.*
Grapsus maculatus *Catesby.*
Sesarma Büttikoferi *de Man.*
» Germani *A. M. E.*
» oceanica *de Man.*
Heterograpsus crenulatus *Guérin.*
» spinosus *M. E.*
Calcinus intermedius *de Man.*
Pseudosquilla oculata *Brullé.*

1. *Actaea rugata* Ad. & White.

Aegle rugata, Adams and White, Zool. of the voyage of H. M. S. Samarang, Crust., 1848, p. 43, Pl. VIII, fig. 5.

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1) See for N°. 1 and 2: Vol. III, p. 121 and p. 245; for N°. 3: Vol. V, p. 150, and for N°. 4: Vol. XII, p. 49.

Actaea rugata, A. Milne Edwards, in: Nouv. Archives du Muséum, T. I, p. 269.

Actaea rufopunctata, de Man, in: Journal Linnean Society of London, Vol. XXII, 1887, p. 26, and in: Archiv für Naturgeschichte, Bd. 53, 1888, p. 261.

One female specimen without eggs, from Samoa, purchased from the Museum Godeffroy.

This species is closely allied to *Actaea rufopunctata* M. E., so that one easily may confound them. I now studied in Paris adult type-specimens of the two species, and I observed the following differences.

The cephalothorax of *A. rufopunctata* is a little more enlarged and the distance between the external orbital angles (and therefore also the breadth of the front) is comparatively somewhat smaller in this species than in *A. rugata.* The upper surface of the cephalothorax of *A. rufopunctata* is covered with a very short close down, similar to that of *Actaeodes tomentosus* M. E.; the interregional grooves, as well as the lobules themselves, are clothed with it, excepted the granules with which the lobules are covered. In *A. rugata*, however, the lobules of the upper surface of the cephalothorax and the legs are clothed, besides with a close down, with tolerably long stiff yellowish brown hairs, which are inserted between the granules.

As regards the form of the front, the two species agree with one another. In both species the regions 2 M are by longitudinal grooves divided into four protogastric lobules; in *A. rufopunctata* these lobules are nearly of the same size, but in *A. rugata* the external protogastric lobules are about twice as broad as the internal ones. The cardiac region of *A. rufopunctata* shows anteriorly a trace of a median longitudinal furrow, whereas in *A. rugata* this lobule appears always quite undivided.

The legs, finally, present a different appearance in both species. The carpopodites and propodites of *A. rufopunctata* are, namely, very nodose and these tubercles are especially characteristic to the ambulatory legs. In *A. rugata* the legs are also grooved above, but they do not present the characteristic prominent tubercles of the other species.

The cephalothorax and the legs of *A. rugata* are also marked with some symmetrically arranged spots of a reddish or violet colour, the largest of which covers the whole mesogastric and the two internal protogastric lobules.

The specimens from the Mergui Archipelago and those from the Bay of Batavia, which I have referred (l. c.) to *A. rufopunctata*, now appear to be true representatives of *A. rugata*.

In a very young female specimen from the Fiji Islands, which Prof. Milne Edwards likewise refers to *A. rufopunctata*, the front projects a little less forward, the median emargination is not so deep, and on each side of it the front appears only slightly emarginate towards the external angles.

Actaea Rüppellii Krauss, from Natal, is probably identical with *A. rugata*, but the cephalothorax of the species of Krauss appears to be still somewhat narrower and less enlarged. Dr. Hilgendorf, however, unites the two species.

Actaea rugata Ad. & White has been recorded from Zanzibar, Mozambique, Mauritius, the Mergui Archipelago, the Bay of Batavia, Macassar, the Philippines and New Caledonia.

The dimensions of a type-specimen of *Actaea rufopunctata* M. E. from the Paris Museum, obtained in the Red Sea, are the following:

	♂	
Breadth of the cephalothorax	39	mm.
Length (the front included).	$26^1/_4$	»
Distance between the external orbital angles (measured at the tips of the corneae) . .	$17^1/_2$	»
Distance between the internal orbital angles .	$11^1/_2$	»

The dimensions of three specimens of *Actaea rugata* Ad. & White are the following:

	1.	2.	3.	
	♂	♂	♀	
Breadth of the cephalothorax . .	32	$26^1/_3$	$25^1/_2$	mm.
Length » » » . .	23	$19^1/_4$	18	»

	1. ♂	2. ♂	3. ♀	
Distance between the external orbital angles	$16^{1}/_{2}$	$13^{1}/_{2}$	$13^{1}/_{4}$	mm.
Distance between the internal orbital angles	10	8		»

N⁰. 1. Specimen collected in New Caledonia, from the Paris Museum.

N⁰. 2. Specimen from the Bay of Batavia.

N⁰. 3. Specimen from Samoa.

2. *Actaeodes pubescens* M. E.

(Pl. 1, fig. 1).

Zozymus pubescens, H. Milne Edwards, Hist. Nat. des Crustacés, T. I, p. 384. (1834).

Liomera pubescens, A. Milne Edwards, in: Nouv. Archives du Muséum, T. I, p. 223, Pl. XII, fig. 6, 6ᵃ.

A male and a female from the Fiji Islands.

The nearest ally of this rare species is *Actaeodes Richtersii* de Man, from Tahiti. As regards the general form and structure of the cephalothorax, these two species closely resemble one another. The regions of the upper surface, which is somewhat convex in the anteroposterior direction and slightly also transversely, are as little defined as those of *Act. Richtersii*, at least in these two specimens, one of which has been kindly determined for me by Milne Edwards. The sutures defining the gastric region are absent, so that the quoted figure in the »Nouvelles Archives", in which they have been figured, is perhaps not exact. I observe only the median frontal furrow, which is divided itself as usual in two furrows, but these two furrows are short and do not reach to the lateral borders of the gastric region. The grooves defining the gastric and cardiac regions are indeed quite absent in these specimens, and only two small impressed points, placed in a transverse line near one another, separate the two regions from one another. In the male specimen a shallow transverse impression separates still the cardiac from the intestinal region, but in the larger female even this impression is almost indistinguishable. The two furrows which border the third lobe of the antero-lateral margins, are as short as in *A. Richtersii*, and the furrow which extends along the upper margin of the orbits and the two anterior antero-lateral lobes, quite resembles that which exists in *A. Richtersii.*

The somewhat prominent front is about as narrow as in the other species, and divided by a narrow incision in two rounded lobes; these lobes are directed obliquely backward and are more distinctly emarginate towards their external angles, which are dentiform and scarcely separated from the internal angles of the orbits. The eyepeduncles and the orbits resemble those of the other species.

The antero-lateral margins are a little longer than the postero-lateral ones, but they are equal in length in the other species. They are rather indistinctly divided into four lobes, the first of which is only a little longer than the second: the first antero-lateral lobe of *A. Richtersii*, however, is nearly as long as the three other lobes taken together. The third lobe is separated by more distinct notches from the second and the fourth, than the first lobe from the second. The third lobe measures two thirds of the length of the second, and is slightly rounded and prominent. It ought to be observed that in the younger male specimen the antero-lateral margins appear to me to be comparatively a little longer than those of the adult female, and that the third lobe of the former projects a little more outward laterally than the fourth, whereas in the female the fourth lobe projects more outward than the third. As regards the granulation of the cephalothorax, both species almost agree with one another, and the upper surface is covered with very short hairs which are also inserted at the base of the granules.

The under surface of the cephalothorax is everywhere granulated, the granules being larger towards the lateral margins. The external maxillipedes are uniformly granulated and this is also the case with the sternum. The male abdomen is five-jointed and nearly smooth, except the two basal joints; the penultimate joint is nearly quadrate and scarcely shorter than the breadth of its posterior margin.

The seven-jointed abdomen of the female is also somewhat granulated on the two first joints and on the lateral sides of the two following.

The anterior legs are especially characteristic. They are equal, both in the male and in the female. The arms are everywhere granulated, and the granules are a little larger on the upper and on the infero-external margins. The wrist is everywhere granulated, and armed with a single tooth at the internal angle. The hands are almost three times as long as high, like in *A. Richtersii*, but the fingers are comparatively shorter. They measure, indeed, little more than a third of the length of the palm, and the palm is twice as long as high. The upper margin and almost the whole outer and inner surfaces of the palm are covered with conical granules, which are arranged, at least in the middle of the outer surface, more or less distinctly in longitudinal series. The granules disappear gradually towards the distal end of the outer surface and of the lower margin, somewhat more in the younger male than in the female specimen. A few granules are seen along the distal margin of the outer surface. The granulation evidently extends on a somewhat greater part of the outer surface of the palm than in *A. Richtersii*, and in this species the granules show nowhere a disposition to an arrangement in longitudinal series. The short fingers are feebly dentate, but distinctly excavated at their ends; the upper margin of the dactylus presents two deep longitudinal furrows, and the outer and inner sides of the fingers are also furrowed. The hands have the same form and proportions in the male and in the female, though it ought to be observed that the male is much younger than the female.

The ambulatory legs are similar to those of *A. Richtersii*, but they are more distinctly and more uniformly granulated, and clothed only with short and scanty hairs, whereas the ambulatory legs of *A. Richtersii* are provided with long, yellowish and silky hairs.

The upper surface of the cephalothorax and the upper sides of the legs present a fine rose-colour, the under surface is paler. Quite as in the species from Tahiti, the upper surface of the cephalothorax is ornamented with small round white spots, some of which occur also on the under sides of the carapace. The fingers are of a dark lead-colour with paler tips, and this lead-colour extends in the male on the distal part of the outer and inner surfaces of the palm, but not in the female.

Actaeodes pubescens appears to be widely distributed, the original specimen of the Paris Museum having been collected at Mauritius.

Measurements:	♂	♀
Greatest width of the cephalothorax	$23^2/_3$ mm.	$29^1/_2$ mm.
Length » » »	$12^2/_3$ »	16 »
Distance between the external orbital angles	9 »	$11^1/_3$ »
Length of the hands	12 »	$14^2/_5$ »
Height » » »	$4^1/_4$ »	5 »
Length » » fingers	$3^2/_5$ »	$4^1/_2$ »

3. *Etisus anaglyptus* M. E.

Etisus anaglyptus, H. Milne Edwards, Hist. Nat. des Crust. T. I, p. 411. (1834).

Etisus anaglyptus, Miers, Report on the Zool. Coll. made in the Indian Ocean during the voyage of H. M. S. Alert, 1884, p. 218.

The Leyden Museum contains two males from Timor, and a male and a female from Samoa.

Prof. Milne Edwards enabled me to compare these specimens with the original individual, which has been figured by the late Milne Edwards in the large illustrated edition of Cuvier. As Miers already supposed, the frontal lobes are not merely truncated, but slightly emarginated, and they are separated by a triangular notch, which is more distinct than in the figure of Cuvier. The upper surface of the cephalothorax of the male from Samoa is marked with five yellowish red spots, viz. one on the gastric, one on each hepatic region, and one on the anterior part of the areolae 5 L. The upper surface of the cephalothorax of the female specimen appears slightly more rugose, and the tubercles, with which the anterior legs are provided, are a little more distinct and prominent than in the male. The black colour of the fingers does not extend over the palm, but in the male it extends over a distal part of the inner and outer surface of it.

The cephalothorax of the larger male from Timor presents the following dimensions:

	♂
Greatest width (distance between the penultimate antero-lateral teeth).	$43^{1}/_{2}$ mm.
Length of the cephalothorax [1])	29 »
Distance between the tips of the internal orbital angles	$11^{1}/_{2}$ »

This species has also been recorded from the Philippines and from the North-eastern coasts of Australia.

4. *Etisodes frontalis* Dana.

(Pl. 1, fig. 2).

Etisodes frontalis, Dana, Proc. Acad. Nat. Sciences of Philadelphia, 1852, p. 77, and United States Expl. Exp. Crust. 1852, T. I, p. 187, Pl. IX, fig. 3.

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1) The length of the cephalothorax is measured exactly in the dorsal median line, from the base of the median frontal incision to the posterior margin.

Etisodes frontalis, A. Milne Edwards, in: Nouv. Archives du Muséum, T. IX, p. 235.

Two fine male specimens from Upolu, one of which is adult. The latter was sent by me to Prof. Milne Edwards, who informed me that this species was referred in the Collection of the Museum to *Etisodes frontalis* Dana, and that the specimens of the Museum were also collected at Upolu. I believe he is right, though I must observe that the cephalothorax of Dana's specimen appears comparatively less enlarged and narrower than those of our individuals; but the original specimen, described by Dana, was very young, the cephalothorax measuring only eight millim. in breadth, and the difference may, therefore, perhaps be ascribed to this fact.

This species is certainly different from *Etisodes Electra* Herbst = *sculptilis* Heller, and Miers (Report Crustacea Voyage of H. M. S. Alert, p. 217) was wrong in uniting these two species.

The cephalothorax is exactly once and a half as broad as long. The upper surface is slightly convex anteriorly, and more depressed posteriorly; it is rather strongly lobulate, and the interregional grooves are rather deep, though narrow. The median frontal furrow is, as usual, divided in two furrows which border the mesogastric area 3 M, issuing into the gastrobranchial i. e. cervical suture. The epigastric lobes are prominent, and distinctly separated from the less prominent postfrontal lobules 2 F; they are also separated from the upper walls of the orbits by longitudinal grooves, which run parallel with the median frontal furrow, and which begin at the hiatus between the internal orbital and external frontal angles. The protogastric regions 2 M are subdivided only anteriorly by the described longitudinal grooves which border the epigastric lobules laterally, and are for the rest undivided. The urogastric lobe 4 M is distinctly defined. This is not the case with the cardiac region, which is coalescent laterally with the postero-lateral regions 3 R; but it is separated from the intestinal region by a transverse groove, which runs parallel with the posterior margin of the cephalothorax and which is interrupted in the middle. The hepatic region is divided into three prominent lobules 1 L, 2 L and 3 L, and the three areolae 4 L, 5 L, 6 L are also distinctly separated from one another and, at least the first, prominent. The postero-lateral regions 1 R, 2 R and 3 R are equally distinct, and the two latter are separated from one another by a rather deep oblique groove. The lobulation of the cephalothorax evidently much resembles that of *Etisodès Electra.* The lobules are irregularly punctate, and the anterior ones appear slightly granulated on their most prominent portions, only visible, however, under a lens of sufficient power. The distance between the external orbital angles is slightly more than half as broad as the greatest width of the cephalothorax. The front does not project so much forward as in *Etis. Electra* and is, somewhat obliquely, directed downwards. It presents two arcuate and granulated internal lobes, which are separated from one another by a small triangular incision; these lobes are separated by a slight emargination from the less prominent external lobes, which are much smaller, obtuse and dentiform. The frontal lobes are ornamented on their upper surface with a transverse row of obtuse granules, which runs close to the anterior margin of the front, and which is interrupted in the middle by the median frontal furrow. The external frontal lobes are separated from the obtuse internal orbital angles by a rather wide triangular hiatus, in which the external antennae are placed. The orbits are scarcely broader than long. The upper margin presents externally two triangular incisions, the external angle is obtusely dentiform, and separated from the lower margin by a triangular hiatus; the latter is finely granulated like the upper margin and terminates at its internal angle into a prominent dentiform lobe.

The antero-lateral margins are a little longer than the postero-lateral ones and armed, behind the extraorbital teeth, with four triangular teeth. The two first are subacute, the two posterior ones very acute, almost spiniform, and somewhat directed forward. The penultimate tooth projects a little more outward than the last, so that the cephalothorax presents its greatest width at the penultimate teeth. The margins of these teeth are ornamented, especially at their base, with acute conical granules, and the antero-lateral teeth are also somewhat granulated above. The postero-lateral margins are nearly straight and somewhat granulated. There is, finally, a transverse sinuated groove immediately before the posterior margin of the cephalothorax.

The lateral parts of the under surface of the cephalothorax are covered with long hairs, especially in the middle and posteriorly; they are also somewhat granulated.

The second joint of the outer foot-jaws is marked with the usual longitudinal furrow near and parallel with the inner margin; this furrow reaches neither to the anterior, nor to the posterior margin of the joint. The third joint is slightly broader than long and quadrangular; its anterior margin is straight, the external margin very slightly concave. The outer foot-jaws are almost smooth, though punctate.

The sternum is smooth, shining and somewhat punctate, especially anteriorly. The male abdomen is five-jointed. The penultimate joint is somewhat longer than broad, the terminal joint obtusely rounded and a little shorter than broad at its base; the abdomen is smooth, except the lateral sides of the basal segment which are granulated.

The legs resemble those of *Etisodes Electra.* The right chelipede is the larger in both specimens. The arms project scarcely beyond the lateral margins of the cephalothorax. Some small acute teeth are observed on the upper margin, which is clothed with long hairs; the anterior margin presents a few acute granules, but the infero-external margin is rounded and unarmed. The distal margin of the outer surface is also somewhat hairy. The arms are for the rest almost smooth. The wrist is armed with an acute tooth at the inner angle, below which a second, somewhat smaller one, occurs. The upper surface bears a tubercular eminence near the articulation with the hand, and appears somewhat rugose, uneven and punctate. The larger hand is twice as long as high, the fingers included; the smaller one appears to be comparatively a little longer. The upper margin of the palm presents three tubercular eminences at the proximal end; the outer surface is covered with numerous slightly transverse or oblique and reticulating rows of confluent and little distinct granules, some of which are finer and smaller than the others. These granules are, however, scarcely distinguishable to the naked eye. The under margin of the palm is smooth and rounded. These transverse and oblique granular ridges are a little more prominent on the smaller than on the larger hand. The fingers measure scarcely two thirds of the length of the palm. They are widely gaping. The mobile finger is strongly arcuate and presents two longitudinal furrows on its upper margin, of which the inner one is very short; three tubercular eminences exist at the base of the upper margin, and are placed transversely. The inner margin of this finger is armed with a strong, obtuse tooth at the base, with a much smaller tooth immediately before it. The lower finger, which is also longitudinally sulcate on its outer surface, is slightly curved upward at its tip, and armed in the middle with a strong tooth, which is preceded both on the outer and inner side by three or four smaller teeth. The strongly excavated extremities of both fingers are ornamented with a tuft of yellow hairs. The teeth with which the fingers of the smaller hand are armed, are much smaller, especially those of the dactylus. The inner surface of the hands and of the fingers is quite smooth.

The ambulatory legs are short. They are armed along their upper margins with small acute conical granules, which become somewhat larger and spiniform on the dactylopodites; some smaller granules are moreover observed on the lower or posterior margins of the propodites and at the base of those of the meropodites. The outer surface of these legs is for the rest nearly smooth. They are covered along their margins with tolerably long yellow hairs.

Measurements:	♂	♂
Greatest width of the cephalothorax	$21^{3}/_{4}$ mm.	14 mm.
Length » » »	$14^{2}/_{3}$ »	$9^{3}/_{4}$ »
Distance between the external orbital angles	$12^{1}/_{4}$ »	$8^{2}/_{5}$ »

The cephalothorax presents, on a pale yellowish gray ground-colour, a few purplish spots, one on the middle of the gastric and one on the cardiac region; that part of the upper orbital margin which lies between the two incisions, is also marked with purple. The hands and the other legs are also marbled with this colour. The fingers are pale brown, with white tips and white teeth, and the brown colour does not extend on the palm.

The hands of this species somewhat resemble those of *Actaea Danae* A. M. E. = *Actaeodes areolatus* Dana (Dana, l. c., Pl. IX, fig. 8b).

Etisodes frontalis was discovered in the Sooloo Sea.

5. *Epixanthus corrosus* A. M. E.

Confer: de Man, in: Archiv f. Naturgeschichte, Jahrg. 53, 1888, p. 292, Pl. XI, fig. 3, and in: Zool. Jahrbücher von J. W. Spengel, T. IV, 1889, p. 422.

The Leyden Museum contains a single male from Padang.

The figure of this crab in the »Nouv. Archives du Muséum, T. IX, pl. 9, fig. 1" is not quite exact, as I found by an examination of the small type-specimen of this species in the Paris Museum. The cephalothorax indeed has been drawn a little too long. The front, which in larger individuals is comparatively narrower than in the young ones, has been well figured.

The cephalothorax of the Padang specimen is comparatively a little less enlarged than that of the adult individual from Batavia, which I described some time ago.

Measurements:	Type specimen of Paris.	Padang specimen.
Breadth of the cephalothorax. .	13 mm.	27 mm.
Length » » » . .	$7^{2}/_{5}$ »	$15^{3}/_{4}$ »
Distance between the external orbital angles	$5^{1}/_{2}$ »	$9^{1}/_{2}$ »

6. *Epixanthus subcorrosus*, n. sp.

(Pl. 1, fig. 3).

The Leyden Museum has purchased from the Museum Godeffroy two specimens of a new *Epixanthus*, a male and an ova-bearing female, collected on the Island of Upolu.

This new species at first sight strongly resembles *Epix. frontalis* M. E., and is apparently more closely allied to this species than to *Epix. corrosus* A. M. E. = *rugosus* Kossm. I have before me specimens of *Epix. frontalis* (Pl. 2, fig. 4) from the Mergui Archipelago and from the Bay of Batavia, and furthermore the two specimens of *Epix. corrosus* mentioned above.

As to the general form of the cephalothorax, this new species strongly resembles *Epix. frontalis*; thus the proportion of the breadth and the length is precisely the same, and the upper surface is as much depressed. As in *Epix. frontalis*, the upper surface is neither lobulated nor grooved, except on the postfrontal or epigastric region, where there is the usual longitudinal median suture which is posteriorly bifurcated.

The epigastric lobes are faintly indicated. The upper surface of the cephalothorax of *Epix. frontalis* appears, when seen under a lens, somewhat minutely granulated anteriorly and towards the antero-lateral margins; in our new species, however, the upper surface is distinctly rugose and uneven on the antero-lateral parts in front of the minutely granulated line, which in both species proceeds from the last antero-lateral tooth obliquely forward and inward. The upper surface of the front appears likewise slightly rugose and granular. Now I must remark that these rugosities are considerably less developed in *Epix. subcorrosus* than in *Epix. corrosus.* These rugosities are also observed on the postero-lateral sides, immediately behind the oblique granulated line. The rest of the upper surface of the cephalothorax is quite smooth as in *Epix. frontalis*, and appears only minutely punctate when seen under a magnifying glass; the points are, however, a little more distinct and more crowded than in *Epix. frontalis.*

In *Epix. corrosus*, on the contrary, the whole upper surface appears distinctly granulated.

As regards the form of the front and the size and the shape of the orbits, our species almost entirely agrees with *Epix. frontalis*, but the distance between the external orbital angles (and consequently also the front) is a little broader in proportion to the breadth of the cephalothorax in *Epix. frontalis* than in *Epix. subcorrosus*, as is shown by the measurements given below. Thus the upper margin of the orbits is entire and the lower one does not present a hiatus near the external angle, which is not at all prominent. The antero-lateral margins are comparatively as long as those of *frontalis* and are, quite as in this species, divided into four lobes; these lobes are similar to those of *Epix. frontalis* and are separated by notches of quite the same form, but the third lobe is comparatively a little longer. In *Epix. frontalis* the second anterolateral lobe is one and a third, in *Epix. subcorrosus* scarcely one and a seventh as long as the third lobe. At first sight, therefore, the second lobe appears distinctly longer than the third in *Epix. frontalis*, but scarcely so in *Epix. subcorrosus.*

The lower surface of the cephalothorax at the subhepatic region is only minutely granular in *Epix. frontalis*, but moreover slightly rugose in the other species. The basal joint of the outer antennae of *Epix. frontalis* is, for a somewhat longer extent, in contact with the infero-lateral process of the front, and comparatively a little broader than in *Epix. subcorrosus.*

As to the external maxillipedes, I will observe that the merus-joint is a little more transverse, and the exognath also slightly broader in our new species than in *Epix. frontalis.* The abdomen is seven-jointed and strongly resembles that of the other species, but the penultimate segment is slightly more transverse in *Epix. subcorrosus*, in both sexes, and the abdomen of the female is generally more enlarged.

The anterior legs are comparatively a little shorter and a little less slender, but for the rest strongly resemble those of *Epix. frontalis* as to their form; they differ, however, essentially by the upper surface of the wrist and the upper margin of the palm being distinctly rugose and uneven, whereas they are smooth or nearly smooth in *Epix. frontalis.*

The outer surface of the palm, which is strongly rugose and granulated in *Epix. corrosus*, is perfectly smooth both in *Epix. frontalis* and in *Epix. subcorrosus*, at least in the larger hand, the outer surface of the palm of the smaller hand being somewhat minutely granular, when seen under a lens, in both species. As to the form and the dentition of the fingers, *Epix. frontalis* agrees with *Epix. subcorrosus*, but the distal half only is black coloured, whereas this colour extends slightly farther in *Epix. frontalis.*

The ambulatory legs resemble those of *Epix. frontalis*, but they are comparatively a little shorter and present therefore a slightly less slender form.

Epix. subcorrosus is closely allied to *Ozius Agassizii* A. M. E. from Panama and to *Ozius reticulatus* Isis Desborne and Schramm, which inhabits the West-Indian Seas. Our species differs from the former by the more regularly oval form of the cephalothorax and by the hands being subcorrose on the upper margin, but not covered with small tubercles, whereas it may be distinguished from *Ozius* *reticulatus* by the different form of the hands, which are less high in proportion to their length.

Ozius rugulosus Stimps. differs by a less enlarged, more convex cephalothorax, by the shorter fingers of the anterior legs, etc.

When we exclude *Epix. dentatus* White, which is easily recognized by the prominent antero-lateral teeth separated from one another by deep incisions, the three other Indopacific species of *Epixanthus* may be distinguished as follows:

Posterior half of the upper surface of the cephalothorax and outer surface of the anterior legs
- distinctly granulated. *corrosus.*
- smooth; antero-lateral regions, upper surface of the wrist and upper margin of the hands
  - distinctly rugose. *subcorrosus.*
  - smooth or only minutely granular. *frontalis.*

The dimensions of the two specimens of *Epix. subcorrosus* are the following:

	♂	♀
Breadth of the cephalothorax . .	$21\,^{1}/_{4}$ mm.	25 mm.
Length » » » . .	$12\,^{1}/_{2}$ »	$14\,^{3}/_{4}$ »
Distance between the external orbital angles	$10\,^{1}/_{3}$ »	$11\,^{2}/_{3}$ »

I add the measurements of the three specimens of *Epix. frontalis* M. E., mentioned above:

	♂	♂	♀
Breadth of the cephalothorax	30 mm.	$20\,^{2}/_{5}$ mm.	$24\,^{1}/_{2}$ mm.
Length » » »	18 »	$12\,^{1}/_{2}$ »	$14\,^{1}/_{3}$ »
Distance between the external orbital angles	15 »	11 »	$12\,^{1}/_{3}$ »

The upper surface of the cephalothorax of *Epix. subcorrosus* seems to be ornamented with a few symmetrically arranged small spots.

7. *Cardisoma quadratum* de Sauss.

Cardisoma quadrata, de Saussure, Mém. pour servir à l'Histoire naturelle du Mexique, des Antilles et des Etats-unis. 1e Livraison, Crustacés, p. 22, fig. 13. 1858.

Cardisoma quadratum, S. J. Smith, in: Transactions Connecticut Acad. of Arts and Sciences, vol. II, 1869, p. 16.

One adult male from the West-Indies, collected by Mr. Neervoort van de Poll, and a somewhat younger female, collected at the Island of Aruba by Prof. Martin.

These specimens have certainly reached the largest size which this species may attain; they are considerably larger than those which were measured by Smith. Nevertheless they present still distinctly all the characters by which this species differs from *Cardisoma Guanhumi.* According to de Saussure the distance between the external orbital angles is, in young specimens, a little longer than the length of the cephalothorax and measures $^5/_6$ of the breadth of the latter. In the female specimen the external orbital angles are exactly as far distant from one another as measures the length of the cephalothorax, and in the male the length of the cephalothorax is a little larger than the distance between the external orbital angles. Both in the male and in the female there is a very small, though distinct epibranchial tooth at a short distance behind the acute external orbital angles, and the raised line defining the antero-lateral margins is still distinctly developed in both individuals. The lateral sides of the cephalothorax are somewhat swollen, and project but little beyond the raised lines which define the lateral margins.

The orbits are comparatively high and only little more than once and a half as broad as high; they are comparatively a little higher in the male than in the female specimen, and a little broader than the anterior margin of the front. The inferior margins of the orbits pass with an obtuse rounded angle to the extra-orbital teeth. The basal joint of the external antennae is slightly enlarged and about once and a half as broad as high, and has the anterior margin emarginate for the insertion of the second joint.

In the male the larger chelipede is on the left, in the female on the right side. In both specimens the arm is sharply trilateral, and the internal as well as the external margin of the under surface are armed with several more or less acute small teeth, more developed in the female than in the male, whereas the upper margin is transversely wrinkled. The outer surface of the arm is somewhat granular. The upper surface of the carpus is almost smooth in the larger, but distinctly granulated on the inner and outer sides in the smaller chelipede; the carpus of the larger chelipede is armed with a small acute tooth at the inner angle of its upper surface, that of the smaller with a longer and more acute tooth. The larger hand is about as long as the breadth of the cephalothorax. The upper and especially the lower margin of the palm are granulate, the outer surface is smooth and punctate, the inner surface a little granular. The upper margin of the mobile and the lower margin of the immobile finger of the larger hand are covered with small sharp granules. The fingers of the larger hand of the male are a little gaping, scarcely also those of the female.

The meropodites of the ambulatory legs are armed with an acute tooth at the distal end of their upper margin. The legs are somewhat hairy and covered, especially on the propodites and carpopodites, with tufts of rather short black hairs.

This species is most closely allied to *Cardisoma armatum* Herklots from the western coast of Africa, as is already observed by S. J. Smith, but I may add that it likewise so strongly resembles *Card. Urvillei* M. E., which inhabits the islands of Samoa, Celebes and the Moluccas, that it also might be mistaken for this Indian species.

Measurements:	♂		♀	
Distance between the ext. orb. angles	56	mm.	$52^{1}/_{2}$	mm.
Greatest width of the cephalothorax, the swollen lateral parts of the body included	75	»	70	»
Length of the cephalothorax . . .	59	»	53	»
Breadth of the orbits	19	»	18	»
Height » » »	$11^{3}/_{4}$	»	$10^{1}/_{2}$	»
Length of the larger hand . . .	77	»	$67^{1}/_{2}$	»

Genus *Gelasimus* Latr.

I am acquainted by personal observation with fifteen Indopacific species of this genus, which may be distinguished by the following characters:

I. Front between the eyes narrow.

A. Lower wall of the orbits without an accessory row of granules near the inferior margin.

α. Anterior margin of the arm of the larger chelipede of the male with an acute and prominent tooth. Cephalothorax little narrowed backwards.

β. Orbits only a little oblique. Hand internally with two strongly granulated ridges. *vocans* M. E.

ββ. Orbits very oblique. Hand internally without granulated ridges. . . . . . *tetragonon* Herbst.

αα. Anterior margin without an acute and prominent tooth. Cephalothorax more or less strongly narrowed posteriorly.

γ. Lower finger or index with a single tooth a little before the middle. Hands elongate. *Dussumieri* M. E.

γγ. Lower finger with two teeth.

δ. Lateral margin arcuate in the shape of an *S*. Frontal furrow narrow. . *arcuatus* de Haan.

δδ. Lateral margin nearly straight, very oblique. Frontal furrow broad. . *acutus* Stimpson.

AA. Lower wall of the orbits ornamented with an accessory row of granules. Cephalothorax more or less narrowed backwards.

α. Mobile finger or dactylus with a prominent lobe or tooth at the distal extremity *coarctatus* M. E.

αα. Mobile finger without a prominent tooth at the distal extremity.

β. Lower finger with two only slightly promin. lobes or teeth. *forcipatus* (Ad. & White) de Man.

ββ. Lower finger presenting but one single tooth.

γ. Tooth of the lower finger conical, a little before the middle. . . . . . *Urvillei* M. E.

γγ. Tooth of the lower finger broadly triangular, a little beyond the middle. . . *signatus* Hess.

II. Front between the eyes broad.

A. Lower oblique crest of the inner surface of the palm quite absent. Dactylus (mobile finger) with a prominent tooth at the distal extremity. . . *inversus* Hoffm.

AA. Lower oblique crest more or less distinct. Dactylus without a tooth at the extremity.

α. Upper border of the palm margined by a slightly raised edge.

β. Cephalothorax moderately narrowed backwards. Hand elongate, fingers considerably longer than the palm. Dactylus not furrowed on its outer surface . . . . *Gaimardi* M. E.

ββ. Hand rather short, fingers little longer than the palm.	Cephalothorax moderately narrowed backward. Fingers scarcely longer than the palm. Dactylus not furrowed on its outer surface. Inner surface with two parallel rows of slightly prominent granules near the articulation of the fingers	*chlorophthalmus* Latr
	Cephalothorax extraordinarily narrowed backward. Fingers almost once and a half as long as the palm. Dactylus with a distinct longitudinal impression on the outer surface. Only one single row of granules near the articulation of the fingers.	*triangularis* A. M. E.

α. Upper border of the palm rounded.

γ. Cephalothorax scarcely narrowed backwards. Antero-lateral margins nearly parallel. Inner margin of the index only slightly arcuate before the tip . . . . *lacteus* de Haan.

γγ. Cephalothorax distinctly narrowed backwards. Antero-lateral margins oblique and convergent. Index with

a prominent tooth immediately before
the extremity. . . . . *annulipes* Latr.

8. *Gelasimus vocans* M. E.

(Pl. 2, fig. 5).

Gelasimus vocans, H. Milne Edwards, in: Annales des Sciences Naturelles, T. XVIII, 1852, p. 145, Pl. III, fig. 4.

Gelasimus vocans, de Man, in: Notes from the Leyden Museum, Vol. II, 1880, p. 67. — Miers, Report on the Brachyura of the Challenger Expedition, 1886, p. 242.

I have before me the following specimens, about which I will remark the following.

Three male specimens collected at Atjeh, Sumatra, from my own collection. They apparently belong to the typical form of this species, and I have figured the larger hand of one of them (fig. 5). The inner margin of the immobile finger is armed with two triangular, prominent teeth, of which the distal one is slightly larger than the other, and with a third very small one quite at the base; the mobile finger presents two small prominent teeth near the base and a third still smaller one which is found a little before the prominent distal tooth of the index. The two crests on the inner surface of the palm are strongly developed.

Secondly a male from the Island of Morotai. This specimen only differs from the foregoing ones by the two prominent teeth of the lower finger, these being about of the same form and size.

In the third place an adult male and an ova-bearing female from the Fiji Islands, and two somewhat younger males and a female from the Samoa Islands. In these specimens the larger hand of the male appears a little more elongate than in the Atjeh-specimens, i. e. slightly longer in proportion to the height, and the lower margin is less strongly arcuate. The middle one of the three teeth of the immobile finger is much less prominent, more or less rounded and agrees with the quoted figure of Milne Edwards; the distal tooth is also comparatively smaller, especially in the adult male from Fiji. In the latter the dactylus is also comparatively higher than in the other specimens, so that the fingers leave a small hiatus between them when closed, and the dactylus presents no trace of the small distal tooth which exists in the other specimens. These individuals from the Fiji and Samoa Islands are probably to be referred to the variety *cultrimanus* Ad. & White, though, according to Miers, in the type-specimens of that form the proximal tooth of the two large triangular teeth of the index is always entirely wanting, whereas a trace of it still exists in our specimens. I have figured the hand of the larger male from Samoa (fig. 5^a).

The larger hand of one of the Atjeh males has a length of $31^1/_2$ mm. and is 14 mm. high; these numbers are for the adult male from Fiji $42^1/_2$ mm. and $17^1/_3$ mm., and for the larger male from Samoa 33 mm. and 13 mm.

9. *Gelasimus tetragonon* Herbst.

(Pl. 2, fig. 6).

Gelasimus tetragonon, Herbst; Milne Edwards, l. c. p. 147, Pl. III, fig. 9. — Kingsley, in: Proc. Acad. Nat. Sciences of Philadelphia, 1880, p. 143, Pl. IX, fig. 11.

Gelasimus variatus, Hess, Beiträge z. Kenntniss der Decapodenkrebse Ost-Australiens, 1865, p. 20, Pl. VI, fig. 7.

An adult male and two very young males from Tahiti, and a fine male and a female without eggs from the Samoa Islands.

The nearest ally of this species is *Gelas. vocans* M. E. The cephalothorax of *Gelas. tetragonon* is, however, strongly convex in the antero-posterior direction, much more than that of *Gelas. vocans*, the orbits have a much more oblique direction and the front and the frontal furrow are comparatively broader. The lateral margins of the cephalothorax are indicated in both species by a minutely granulated, little prominent line. In both species also the cephalothorax appears little narrowed backwards and they may be distinguished already by this character alone, at first sight, from many others, as e. g. from *Gelas. Dussumieri*, *arcuatus*, *coarctatus*, *acutus*, *Urvillei* etc. The inferior orbital margin does not present even a trace of an accessory row of granules, which occurs in other species, as e. g. *Gelas. signatus* Hess, neither in the male nor in the female.

In both species the anterior margin of the arm of the larger chelipede of the male is armed with an acute prominent tooth near the distal end. The carpopodite is perfectly smooth on its rounded external surface, and presents only a few minute granules on the upper surface towards the inner margin. The larger hand shows some resemblance, as to its general form, to that of *Gelas. acutus* Stimps. (vide de Man, in: Journal Linnean Soc. of London, Vol. XXII, Pl. VIII), but the inner surface of the palm, though being somewhat granulated, does not bear the granulated ridges which exist in that species and which are so strongly developed in *Gelas. vocans.* The outer surface of the palm is rather finely granulated, the fingers are only a little longer than the palm. The immobile finger, which is slightly curved upward, presents, about as in *Gelas. vocans*, a shallow pit at its base and is here a little more coarsely granulated; it is marked on this place with a large red patch, which, according to Miers, extends sometimes over the whole outer surface of the palm. Both fingers are regularly tapering. The lower finger bears two little prominent teeth or prominences on the distal half of the inner margin; on the dactylus only six or seven somewhat larger and several smaller granules occur.

The fingers of the smaller hand of the male are a little shorter in proportion to the length of the palm than in *Gelas. vocans.*

The ambulatory legs fully resemble those of the latter species.

Gelas. tetragonon Herbst is distributed from the Red Sea and Zanzibar to the Sandwich Islands, Tahiti and Sydney (Hess).

10. *Gelasimus Dussumieri* M. E.

Gelasimus Dussumieri, H. Milne Edwards, in: Annales des Sciences Naturelles, T. XVIII, 1852, p. 148, Pl. IV, fig. 12.

Gelasimus Dussumieri, de Man, in: Journal Linnean Soc. of London, Vol. XXII, 1888, p. 108, Pl. VII, fig. 2—7.

The Leyden Collection contains five male specimens from Java, some of which are adult, a male from the Island of Nossy-Faly near Madagascar, a large number of rather young specimens, both males and females, from Amboina, and two male specimens from the Island of Ponapé, purchased from the Museum Godeffroy. I have given a complete description of this common Indian species in my »Report on the Crustacea of the Mergui Archipelago", so that I will only add the following remarks.

In the specimen from Nossy-Faly the immobile finger of the larger hand is rudimentary; this hand has been figured by Hoffmann (Crustacés de Madagascar, 1874, Pl. III, fig. 22).

In a few male specimens of those collected at Amboina and which are all very young, I observe a trace of an accessory row of granules on the walls of the orbits near the inferior margin. This fact is of some importance as there is usually in this species no trace of that accessory row. But as the cephalothorax of these individuals has exactly the same form as that of the other specimens, being quite as long in proportion to the distance between the external orbital angles, and as they have been collected in the same locality, they are without any doubt to be referred to the same species.

It is not easy to indicate the differences by which *Gelas. Dussumieri* may be distinguished from the Japanese *Gelas. arcuatus* de Haan. The lateral margins of the cephalothorax have a different direction; they form a regularly undulate, S-like line in the species of de Haan, different from what is seen in *Gelas. Dussumieri.*

The two longitudinal grooves by which the gastric and cardiac regions are separated from the branchial regions, are deep in the male of *Gelas. Dussumieri*, but rather shallow in the other species. The external orbital angles are much more acute and directed more obliquely outward than those of *Gelas. arcuatus.*

The larger hand of the male has a different form in both species. The lower finger of *Gelas. Dussumieri* is constantly armed with only one single prominent tooth a little before the middle, but for the rest it is unarmed and terminates in an acute point, slightly curved upward. The dactylus or mobile finger presents only some more or less prominent granules along its proximal half. The lower finger of *Gelas. arcuatus*, on the contrary, presents always two teeth, one a little before or in the middle, the other near the extremity, and more or less prominent granules are observed in this species along the whole length of the inner margin of the dactylus.

The ambulatory legs, finally, are a little less slender in *Gelas. arcuatus*, the meropodites being slightly more enlarged.

I give the measurements of some specimens:

	Millim.			
	1.	2.	3.	4.
Distance between the ext. orb. angles	$37^{2}/_{3}$	$23^{1}/_{4}$	$18^{1}/_{3}$	$15^{1}/_{2}$
Length of the cephalothorax (front included)	$22^{1}/_{4}$	14	$11^{1}/_{3}$	$9^{3}/_{4}$
Length of the larger hand . . .	72	41	$22^{1}/_{2}$	$18^{1}/_{2}$
» » » palm of ditto . . .	18	12	$9^{1}/_{2}$	9

N°. 1, adult male from Java; N°. 2, male from Ponapé; N°. 3, young male from Amboina without, and N°. 4, young male from Amboina provided with a trace of an accessory row of granules near the inferior margin of the orbits.

11. *Gelasimus arcuatus* de Haan.

(Pl. 3, fig. 7).

Gelasimus arcuatus, de Haan, Fauna Japonica, Crustacea, p. 53, Pl. VII, fig. 2.

This Japanese species is apparently still insufficiently known. I have before me two typical specimens from the Leyden Museum, one of which agrees exactly with the quoted figure in de Haan's classical work, whereas the other represents an interesting individual variety.

It differs from *Gelas. vocans* M. E. and *Gelas. tetragonon* Herbst by the form of the cephalothorax, which is strongly convex in the antero-posterior direction, and considerably narrowed backwards; its lateral margins, defined by a rather prominent carina which is only slightly granulated anteriorly, present a characteristical S-like course, which has been very well figured by de Haan. The orbits are transverse, so that the acute external orbital angles, which are directed almost straightly forward and scarcely outward, project nearly as far forward as the middle portion of the upper orbital margin. The inferior one of the two lines which form the upper orbital margin is distinct and tolerably far distant from the upper line. The inferior margin presents no trace of an accessory row of granules; this margin is distinctly crenulate along its whole length. The frontal furrow is narrow and linear with parallel margins, but its form appears rather triangular in the figure of de Haan, which is not exact.

The anterior margin of the arm of the larger chelipede of the male is never armed with a prominent tooth, which exists in *Gelas. vocans* and in *Gelas. tetragonon*, but it bears only a few small granules. The upper surface of the wrist is rather coarsely granulated, considerably flattened and distinctly separated from the entirely smooth and convex outer surface. The size of the larger chela is somewhat variable; in some specimens it is twice as long as the width of the cephalothorax, and a similar specimen has been figured by de Haan, but in the other type specimen the larger hand is scarcely more than once and a half as long as the distance between the external orbital angles. The hand is rather elongate, but the comparative length of the fingers is as much variable as the length of the hand itself. In the specimen figured by de Haan the fingers are twice as long as the palm and considerably gaping, the dactylus being strongly arcuate. In the other specimen the little gaping fingers are slightly more than once and a half as ong as the palm; the upper finger is straight, the larger hand presents some resemblance to that of *Gelas. vocans* M. E. The outer surface of the palm is coarsely granulated, the granules being largest towards the slightly concave base of the immobile finger. In *Gelas. vocans* the immobile finger is more distinctly concave at the base than in the species of de Haan and almost quite smooth, whereas in *Gelas. arcuatus* it is also covered with granules. In both species the upper border of the palm is distinctly margined. The fingers have nearly parallel margins in the specimen figured by de Haan, and they are tapering only near the extremities; but in the other specimen they are regularly tapering towards the tips. Both fingers are longitudinally furrowed on the middle of their outer surface, whereas the mobile finger of *Gelas. vocans* and of *Gelas. tetragonon* is never furrowed on its outer surface.

The inner margin of the lower finger presents a more or less prominent tooth a little before the middle in the specimen similar to that which was figured by de Haan, and a second less prominent one a little before the extremity; in the other specimen, with shorter hand, the first tooth stands almost in the middle of the margin. The small tooth which in *Gelas. vocans* is observed at the base of this finger, does not occur in *Gelas. arcuatus*. The dactylus or upper finger appears somewhat granulated at the base; its inner margin is armed in the specimen with elongate hand with two small teeth, one of which stands a little before the first prominent tooth of the index, the other a little before the subdistal tooth of the latter. In the other specimen it is not provided with prominent teeth, but it presents only several granules, four or five of which are larger than the others, and the largest of which lies quite opposite the prominent tooth on the middle of the index. The ordinary crests on the inner surface of the palm are distinct and coarsely granulated. The ambulatory legs are less slender than those of the three preceding species; the meropodites are more enlarged in proportion to their length, so that e. g. those of the penultimate pair are exactly twice as long as broad.

I will finally observe that *Gelas. acutus* Stimps. from Macao and from the Mergui Archipelago, of which I have published a complete description in my »Report on the Mergui Crustacea", is somewhat allied to *Gelas. arcuatus* de Haan. The anterior as well as the ambulatory legs present indeed the most striking resemblance in both species, when comparing Stimpson's species with the variety of *Gelas. arcuatus* in which the fingers of the larger hand of the male are little longer than the palm. But the cephalothorax of *Gelas. acutus* is still more narrowed backwards; the lateral margins are straight, extremely oblique and not presenting an S-like course; the external orbital angles, finally, are much more acute and directed very obliquely outward, projecting much less forward than the middle part of the upper orbital margin.

The measurements of the two Leyden types of *Gelas. arcuatus* de Haan are as follows:

	1. ♂		2. ♂	
Distance between the ext. orb. angles	$36^1/_2$	mm.	$34^1/_2$	mm.
Length of the cephalothorax (front included).	$22^1/_3$	»	$20^3/_4$	»
Length of the larger hand	67	»	$54^1/_2$	»
Height of the palm.	21	»	$19^1/_2$	»
Length of the fingers	46	»	$33^1/_2$	»

12. *Gelasimus coarctatus* M. E.

(Pl. 3, fig. 8).

Gelasimus coarctatus, H. Milne Edwards, l. c. p. 146, Pl. III, fig. 6. — A. Milne Edwards, in: Nouv. Archives du Muséum, T. IX, p. 272, Pl. XII, fig. 4.

Gelasimus forcipatus, Kingsley, l. c. p. 142, Pl. IX, fig. 9.

A fine male from the Moluccas, collected by Macklot, and a young male from the Island of Ponapé.

This species is closely allied to *Gelas. Dussumieri* and *Gelas. Urvillei*, but differs by the following characters.

The cephalothorax resembles much that of *Gelas. Dussumieri*, it being about quite as long in proportion to the distance between the external orbital angles, but the lateral margins are (at least in our two specimens) straight or even slightly concave and still more oblique. The narrow frontal furrow presents the same form in both species. The wall of the orbits is ornamented with an accessory row of granules near the inferior margin; the row consists only of four or five rather prominent granules.

The larger hand of the male closely resembles that of *Gelas. Dussumieri*, but it may always be distinguished by the existence of a prominent tooth near the extremity of the upper or mobile finger; this tooth is constantly wanting both in *Gelas. Dussumieri* and in *Gelas. Urvillei*. In the young male from Ponapé this distal tooth is already present. Both fingers are longitudinally furrowed on their outer surface.

Measurements:	♂	♂
Distance between the ext. orb. angles	$26^{1}/_{4}$ mm.	$15^{3}/_{4}$ mm.
Length of the cephalothorax . .	15 »	$9^{2}/_{3}$ »

I think Kingsley is wrong when uniting *Gelas. forcipatus* White with this species, because in the former also the lower finger of the larger hand of the male seems to be toothed, which is not the case in *Gelas. coarctatus.*

Gelas. coarctatus is known from the Philippine Islands, Australia and New Caledonia.

13. *Gelasimus forcipatus* Ad. & White?

(Pl. 3, fig. 9).

Gelasimus forcipatus, Adams and White, Voyage of H. M. S. Samarang, Crustacea, 1848, p. 50.

It is not but with much hesitation that I refer a fine male specimen from the Indian Archipelago, probably from the shores of Celebes, to this species, which is only known to me by the short latin diagnosis reproduced by Milne Edwards (Ann. Sc. Nat. T. XVIII, 1852, p. 147).

This crab closely resembles the described variety of *Gelas. arcuatus* de Haan, in which the fingers of the larger hand are but little longer than the palm; it differs by the following characters. The lateral margins of the carapace are a little more oblique, so that the external orbital angles are more acute and directed a little more obliquely outward than in the species of de Haan. The front presents the same form and the orbits are equally transverse. The lower wall of the latter, however, is ornamented near the inferior margin with an accessory row of eight or nine small granules, which are not found in *Gelas. arcuatus* de Haan. The abdominal segments are comparatively a little less enlarged than in the Japanese species.

The larger hand has the same length, being almost once and a half as long as the distance between the external orbital angles. The palm, which is but little shorter than the fingers and almost as high as long, appears comparatively a little higher than the palm of *Gelas. arcuatus.* The outer surface is densely granulated and the granulation is a little finer and closer, the granules being somewhat smaller than in the species of the »Fauna Japonica". The upper border of the palm is margined and the lower border granulated about in the same manner in both species. The two crests on the inner surface of the palm are coarsely granulated in both forms. As I already observed, the fingers are scarcely longer than the palm and both are faintly furrowed in a longitudinal direction on their outer surface. They are regularly tapering and present about the same form as in the described variety of *Gelas. arcuatus*; the mobile finger is granulated at the proximal end of its upper margin. The inner margin of the dactylus is similar to that of the other species and armed with fourteen or fifteen granules, of which one in the middle and a few near the extremity are a little more prominent. The lower finger or index is scarcely concave at the base of its outer surface and armed along its inner margin with about the same number of granules; one of them, situated in the middle, is somewhat prominent and tooth-like, and a few at the extremity are also a little more prominent. These two prominences are, however, much less developed than in *Gelas. arcuatus*. The ambulatory legs, finally, have about the same form.

The upper surface of the cephalothorax of our specimen, preserved in spirits, is green anteriorly, violet posteriorly and on the lateral sides. The hand is of a uniform reddish tinge.

I cannot identify this species with *Gelas. dubius* Stimpson from the Loo Choo Islands, because the orbits are not more oblique than those of *Gelas. vocans*, and because the lateral margins are distinct.

Gelas. acutus Stimpson (pl. 3, fig. 10) differs by the cephalothorax being more strongly narrowed backwards, by the nearly straight and extremely oblique lateral margins, and by the absence of an accessory row of granules on the walls of the orbits.

Measurements:	♂
Distance between the external orbital angles. .	34 mm.
Length of the cephalothorax (front included). .	20 »

Length of the larger hand.	53 mm.
Height of the palm	21 »
Length » » »	24 »

14. *Gelasimus Urvillei* M. E.

Gelasimus Urvillei, H. Milne Edwards, l. c. p. 148, Pl. III, fig. 10.
Gelasimus Dussumieri, Hilgendorf, in: Baron von der Decken's Reise in Ost-Africa, Crustaceen, p. 84, Taf. IV, fig. 1.

Three probably adult males, collected by Messrs. Pollen and van Dam on the Island of Nossy-Faly.

Prof. Milne Edwards enabled me to study the original type-specimen of this species, which was discovered at Vanicoro, and which has been figured by his father.

The three Nossy-Faly individuals, which have been described by Hoffmann as *Gelas. Dussumieri*, perfectly agree with the Paris type, and belong evidently to the same species. They are, however, considerably larger than the Paris type, which is a rather young specimen.

Hilgendorf has published a very good figure of *Gelas. Urvillei*, for the specimens referred by him to *Gelas. Dussumieri*, evidently belong to *Gelas. Urvillei.* I refer therefore to those figures.

The nearest ally of this species is indeed *Gelas. Dussumieri* M. E. It differs firstly by the shape of the cephalothorax, which is a little shorter in proportion to the distance between the external orbital angles; the cephalothorax appears therefore slightly more enlarged anteriorly. In the second place the lateral margins are more oblique, so that the upper surface of the cephalothorax appears a little more narrowed backwards. The walls of the orbits are constantly ornamented near their inferior margin with an accessory row of small granules: I observe about ten or eleven granules which are placed near the middle portion of the lower margin of the orbits.

The anterior legs of the male quite resemble those of

Gelas. Dussumieri and I cannot find any essential difference. The hand of the larger specimen perfectly agrees with Hilgendorf's figure 1c, those of the two other specimens belong to a variety, which occurs also in *Gelas. Dussumieri* and which is characterized by the lower finger being fully unarmed. The meropodites of the ambulatory legs, finally, are a little more enlarged than those of *Gelas. Dussumieri.*

I give the measurements, in millimeters, of two specimens from Nossy-Faly, of the Paris type-specimen of *Gelas. Urvillei*, and of two male specimens of *Gelas. Dussumieri* from the Mergui Archipelago.

	1 ♂	2 ♂	3 ♂	4 ♂	5 ♂
Distance between the ext. orb. angles . .	$24\frac{1}{2}$	$23\frac{3}{4}$	$18\frac{3}{4}$	26	$20\frac{1}{2}$
Length of the cephal. (front included) . .	$13\frac{3}{4}$	13	$10\frac{1}{2}$	$15\frac{3}{4}$	$12\frac{3}{4}$
Length of the larger hand	41	$37\frac{1}{2}$	$17\frac{1}{2}$	$34\frac{1}{2}$	$22\frac{1}{2}$
Length of the palm of the larger hand. .	$13\frac{1}{2}$	10	$6\frac{1}{2}$	$9\frac{1}{2}$	$8\frac{1}{2}$

N°. 1 and 2 are Nossy-Faly specimens of *Gelas. Urvillei.*
N°. 3. Paris type of *Gelas. Urvillei.*
N°. 4 and 5. Male specimens of *Gelas. Dussumieri.*

The proportion of the distance between the external orbital angles, and the length of the cephalothorax is therefore in *Gelas. Urvillei* as 25 : 14, in *Gelas. Dussumieri* as 25 : $14^{3}/_{4}$ or as 25 : 15.

15. *Gelasimus signatus* Hess.

(Pl. 4, fig. 11).

Gelasimus signatus, Hess, Beiträge zur Kenntniss der Decapoden-krebse Ost-Australiens, 1865, p. 20, Taf. VI, fig. 6.

Gelasimus signatus, Miers, Report on the Zoolog. Collect. made during the voyage of H. M. S. Alert, 1884, p. 236.

Gelasimus signatus, de Man, in: Zoolog. Jahrbücher, herausgegeben von J. W. Spengel, Bd. II, 1887, p. 697.

Gelasimus bellator, Kingsley, l. c. p. 138, Pl. IX, fig. 3. (an etiam *Gelas. bellator* White?).

Two adult male specimens from the eastern coast of Australia. As to its general appearance, the cephalothorax of this species closely resembles that of *Gelas. arcuatus* de Haan, but it differs by the different form of the front and by the existence of an accessory row of small granules on the lower wall of the orbits near the inferior margin. The front of *Gelas. arcuatus* is more distinctly constricted at the insertion of the eye-peduncles than in the other species; the frontal furrow extends beyond the middle of the front, is narrow, and its margins are parallel, but in *Gelas. signatus* the frontal furrow does not or only scarcely reach the middle of the front and it is broadly triangular, with rounded tip, and with divergent lateral margins (fig. 11a). The orbits are transverse, quite as those of *Gelas. arcuatus*, but they are ornamented below with an accessory row of fourteen or fifteen small granules near the middle of the inferior margin, which are not found in the species of de Haan. The lateral margins have the same form and direction as those of *Gelas. arcuatus*, as they have the same undulated course in the form of a *S*. The abdomen of the male is a little less enlarged than in the Japanese species.

In both specimens the larger hand occurs on the left side. The anterior and the lower margin of the arm are finely granulate and the anterior margin presents a more or less distinct, compressed and denticulate lobe at the distal end. The outer surface of the wrist is smooth, the upper one is finely granulate and the internal margin somewhat denticulate. The hand (fig. 11b) presents the same elongate and slender form as that of *Gelas. Dussumieri* and is a little more than once and a half as long as the distance between the external orbital angles. The outer surface of the palm is more finely granulate than in *Gelas. Dussumieri*; like in this species the inner surface of the palm is somewhat granulated in the middle and the two ordinary oblique rows of larger granules are equally distinct in both species. The fingers are twice and a half as long as the palm, and therefore appear comparatively as long as those of *Gelas. Dussumieri*; they are smooth and as strongly compressed on the outer as on the inner surfaces. The outer surface of the lower finger is longitudinally furrowed and this furrow proceeds close to the lower margin of the finger; in *Gelas. Dussumieri* this furrow proceeds quite on the middle of the outer surface of that finger. The outer surface of the upper finger or dactylus is also faintly furrowed and the furrow proceeds on the middle of the finger. Whereas the immobile finger of *Gelas. Dussumieri* presents a prominent conical tooth a little before the middle, the inner margin of the lower finger of *Gelas. signatus* is armed with a broadly triangular lobe or tooth of a characteristic form at some distance beyond the middle (fig. 11^b); in the larger specimen the distance between the tip of this lobe and the extremity of the finger is distinctly shorter than the distance between the tip of the tooth and the base of the finger, but in the smaller specimen, the fingers of which are a little shorter in proportion to the length of the palm, the tip of the triangular lobe lies exactly as far from the base as from the extremity of the finger. The upper finger or dactylus has exactly the same form as that of *Gelas. Dussumieri* and the same dentition: I observe one small granule immediately before or opposite the tip of the large lobe of the index, and three or four granules near the proximal end of the finger.

The ambulatory legs present about the same form in both species.

The cephalothorax of these two specimens has a dark green colour; arm, carpus and palm of the larger chelipede are yellowish red, the fingers white.

The larger individual has the following dimensions:

	♂	
Distance between the external orbital angles.	21	mm.
Length of the carapace (the front included).	$12^1/_2$	»
Length of the larger hand	34	»
Length of the fingers	24	»

Gelasimus signatus inhabits the eastern coasts of Australia. *Gelas. bellator* Kingsley is certainly the same species, though Kingsley describes only one row of granules on the inner surface of the palm. But I do not know whether *Gelas. bellator* Ad. & White is also identical with this species or not.

16. *Gelasimus signatus* Hess, var.: *angustifrons* de Man.

(Pl. 4, fig. 11c).

The Leyden Museum contains twenty six specimens (twenty males and six females) of a *Gelasimus*, which I consider to form a distinct variety of *Gelas. signatus* Hess. They were collected on the seashore of Batavia, and only one female is provided with eggs. These specimens, which are of a somewhat smaller size than the two typical individuals from the eastern coast of Australia, which I have described above, indeed exactly agree in all their characters with these Australian types, with exception of the front. This latter is namely a little narrower in proportion to the distance between the external orbital angles and the frontal furrow is longer, reaches beyond the middle of the front and appears also much narrower with only little divergent lateral margins. I must, however, observe that in some specimens these characters are more distinctly pronounced than in others. The accessory row of granules on the lower walls of the orbits is distinctly present in all these individuals, both in the males and in the females.

In the fifteen male specimens, which are provided with their larger chelipede, eleven have it on the left and only four on the right side of the cephalothorax. This chelipede agrees perfectly with the Australian types, presenting as distinctly the characteristic triangular lobe or tooth beyond the middle of the lower finger, and the dactylus presenting quite the same granules. In one specimen the fingers are a little narrower and more slender than usual, and appear also a little longer in proportion to the shorter palm. In another, on the contrary, the fingers are a little higher in proportion to their length as ordinarily and the lobe of the index is rounded and but little prominent. These are, however, individual variations.

I must finally remark that the coloration of these specimens differs also a little from the type, as the arm, the carpus and the palm of the larger hand are of a pale greenish or bluish gray colour, instead of presenting the yellowish red observed in the type.

Dimensions of the two largest specimens:

	♂	♀
Distance between the external orbital angles	$17^{1}/_{4}$ mm.	$14^{2}/_{3}$ mm.
Length of the cephalothorax . .	$10^{1}/_{2}$ »	$9^{1}/_{2}$ »
Length of the larger hand . . .	$26^{1}/_{2}$	
» » » fingers	$17^{1}/_{2}$	

17. *Gelasimus annulipes* Latr.

Gelasimus annulipes, Latreille, H. Milne Edwards, l. c. p. 149, pl. 4, fig. 15. — de Man, in: Notes from the Leyden Museum, Vol. II, 1880, p. 69; idem, in: Journal of the Linnean Soc. of London, Vol. XXII, 1888, p. 118, Pl. VIII, fig. 5—7; idem, in: Archiv f. Naturgeschichte, Jahrg. 53, 1888, p. 353.

Two male specimens belong to that variety, in which the larger hand is more slender and more elongate. In a typical specimen from the Mergui Archipelago the larger hand has a length of $22^{3}/_{4}$ mm. and a height of $8^{1}/_{4}$ mm. In the two specimens from Upolu these numbers are $24^{1}/_{3}$ mm. and $7^{1}/_{4}$ mm. for the larger, 23 mm. and $7^{1}/_{4}$ mm. for the smaller specimen. This variety occurs also in Amboina.

18. *Gelasimus Gaimardi* M. E.

Gelasimus Gaimardi, H. Milne Edwards, l. c. p. 150, Pl. IV, fig. 17.

I refer to this species a male and a female from Samoa some mostly young individuals from the Banda Sea, and twelve young specimens from Amboina.

This species is closely allied to the preceding and to *Gelas. Latreillii* M. E., of which I have a Paris type before me. The cephalothorax is strongly convex in the antero-posterior direction and comparatively a little longer in proportion to the distance between the external orbital angles than that of *Gelas. annulipes.* The orbits in the male are rather much oblique, the external orbital angles acute and directed obliquely outward, whereas they are directed straightly forward in *Gelas. lacteus* de Haan. The lateral margins are rather oblique and converge rather much backwards, a little more in the male than in the female. I do not observe accessory granules on the wall of the orbits of the females near the lower margin, which exist in the female of *Gelas. annulipes.*

The larger hand of the male agrees with the figure of Milne Edwards (Pl. IV, fig. 17a). The distal crest on the inner surface near the articulation with the dactylus is represented in the male from Samoa only by two small granules, and the other is also very indistinctly granulated; but in the male from the Banda Sea I observe two parallel distal rows of granules near the articulation of the mobile finger. I suppose that the development of these rows of granules is somewhat variable according to the individuals. In both males the lower finger presents a very small tooth close to the extremity; it bears, moreover, some more or less prominent granules, and in the male from the Banda Sea even a small tooth in the middle of the margin. The upper finger is strongly arcuate in the male from Samoa and appears unarmed, but in the male from the Banda Sea a few prominent granules are observed along the proximal half of the margin.

The meropodites of the ambulatory legs are a little more enlarged than those of *Gelas. annulipes.*

Measurements:	♂ Samoa.	♂ Banda.
Distance between the external orbital angles	$18^{2}/_{3}$ mm.	$17^{2}/_{5}$ mm.
Length of the cephalothorax . .	$11^{1}/_{2}$ »	$10^{3}/_{4}$ »
» » » larger hand . . .	28 »	27 »
Length of the meropodites of the last pair of legs.	$6^{1}/_{2}$ »	$6^{2}/_{5}$ »
Breadth of the meropodites of the last pair of legs.	$2^{2}/_{5}$ »	$2^{1}/_{5}$ »

I add the dimensions of the Paris type of *Gelas. Latreillii:*

	♂
Distance between the external orbital angles	$22^{1}/_{2}$ mm.
Length of the cephalothorax	$13^{1}/_{4}$ »
Length of the larger hand.	37 »
» » » fingers of the larger hand . .	25 »
» » » meropodites of the last pair of legs.	9 »
Breadth of the meropodites of the last pair of legs.	$4^{1}/_{4}$ »

The meropodites of the ambulatory legs are rather considerably enlarged in *Gelas. Latreillii*, being only twice as long as broad; they are less enlarged in *Gelas. Gaimardi* and in *Gelas. annulipes*, whereas those of *Gelas. lacteus* are still narrower, as they are almost four times as long as broad.

19. *Gelasimus chlorophthalmus* Latr.

Gelasimus chlorophthalmus, Latreille; H. Milne Edwards, Hist. Nat. des Crustacés, T. II, 1837, p. 54, and in: Annales des Sciences Natur. T. XVIII, 1852, p. 150, Pl. 4, fig. 19.

Nec: *Gelas. chlorophthalmus*, Hilgendorf, in: Monatsberichte der königl. Akad. der Wissensch. Berlin, 1878, p. 803.

Two specimens, a male and a female, were presented in 1878 by Milne Edwards to the Leyden Museum under the name of *Gelas. Latreillii.* As I thought this name to be incorrect, I lately sent back the male specimen to Paris, whereupon Prof. Milne Edwards informed me that it is a true representative of *Gelas. chlorophthalmus* Latr.

The nearest ally of this species is *Gelas. Gaimardi* M. E., but they may be distinguished by the different form of the larger hand of the male. The cephalothorax of the male presents exactly the same form in both species, I find no difference of any importance. The two lines of the upper orbital margin are a little more distant from one another than in *Gelas. Gaimardi.* As to the cephalothorax of the female, I observe that the antero-lateral margins are directed a little more obliquely in *Gelas. Gaimardi* than in the species of Latreille, and that the two lines of the upper orbital margin are equally distant in both species. In both species there is no trace of an accessory row of granules near the lower orbital margin, neither in the male nor in the female.

The arm of the larger chelipede of the male has the same form in both species; in both I observe an obtuse tubercle a little before the distal end of the anterior margin, and in both the upper margin is a little granulated. In both the upper surface of the wrist is finely granulated. The larger hand of *Gelas. chlorophthalmus* is considerably higher in proportion to its length than in *Gelas. Gaimardi* and is only twice and a half as long as high, but that of *Gelas. Gaimardi* three times as long as high. Milne Edwards says that the palm is longer than the fingers; this is not the case on the figur which he published in 1853, nor in the male from New Caledonia. In our specimen the fingers are once and a third as long as the palm and the latter is quite as long as high. In both species the palm is margined on its upper border, which is not the case in *Gelas. annulipes*, where the upper border is simply rounded. The outer surface is exactly as finely granulate as in *Gelas. Gaimardi*, the very small granules being visible for the naked eye only towards the upper margin. The under margin of the palm bears a row of granules, about as in *Gelas. Gaimardi* and *Gelas. annulipes*. The fingers are quite smooth, except the base of the dactylus which is somewhat granulate as in the other species. The fingers agree with the quoted figure as regards their form. The mobile finger presents at its inner margin four granules along the proximal half, and a fifth at the beginning of the distal third, but no prominent tooth. Whereas the immobile finger of *Gelas. annulipes* is marked with a longitudinal furrow close to the lower margin, the lower margin of the index of *Gelas. Gaimardi* and *Gelas. chlorophthalmus* is simply rounded and not furrowed, the furrow, which runs near the lower margin of the palm, being interrupted at the base of the finger. The inner margin of the index is armed with a small tooth immediately before the middle, preceded by four smaller granules, and a second smaller tooth is placed at the distal extremity. Milne Edwards describes the inner surface of the palm as wanting the granular crests; but I find in our specimen the three ordinary granular crests distinctly developed, one at the inner margin of the flattened under surface of the palm, the granules of which are little prominent, and two rows of granules near the articulation of the fingers.

The ambulatory legs also fully agree with those of *Gelas. Gaimardi;* those of *Gelas. annulipes* and of *Gelas. lacteus* de Haan are considerably more slender. So e. g. the meropodites of the penultimate pair of legs of the male have a length of 8 mm. and a breadth of $3^{1}/_{2}$ mm.; in a specimen of *Gelas. annulipes* these dimensions are respectively $6^{3}/_{4}$ mm. and $2^{1}/_{2}$ mm., and in a male of the Japanese *Gelas. lacteus* 10 mm. and $3^{3}/_{5}$ mm., in a male of *Gelas. Gaimardi*, however, $8^{1}/_{2}$ mm. and $3^{3}/_{5}$ mm.

Gelas. chlorophthalmus may also be distinguished by its colour (vide: Guérin, Icon. Crust., Pl. 4, fig. 3), the cephalothorax being dark green, the larger hand of a beautiful red, the fingers of a paler colour and the ambulatory legs reddish brown.

This species has been observed at Mauritius and seems to be very rare.

The two specimens were labelled »*Gelas. Latreillii*, Nouvelle Calédonie"; but this label not being applicable to these specimens, and Milne Edwards not quoting *Gelas. chlorophthalmus* amongst the species of New Caledonia, the locality where our specimens have been collected, remains uncertain.

20. *Gelasimus inversus* Hoffm.

(Pl. 4, fig. 12).

Gelasimus inversus, Hoffmann, Crustacés de Madagascar et de l'île de la Réunion, 1874, p. 19, Pl. IV, fig. 23—26.

Gelasimus chlorophthalmus, Hilgendorf, in: Monatsberichte königl. Akad. der Wissensch. zu Berlin, 1878, p. 803.

Three of the four original specimens of this species, which were described by Hoffmann, exist still in the Leyden Museum, unfortunately in a very bad and mutilated state. They have been collected on the Island of Nossy-Faly, where their indigenous name is »Cava tangena".

There can be little doubt that the specimens referred to *Gelas. chlorophthalmus* by Hilgendorf belong to *Gelas. inversus*, and Hilgendorf, apparently, was not acquainted with Hoffmann's description. As this latter is rather complete, I will only compare the species with its nearest ally, viz. *Gelas. lacteus* de Haan.

The lateral margins of the cephalothorax are a little more oblique than those of the species of de Haan, in which the antero-lateral margins are directed forward and scarcely outward. As to the structure of the upper orbital margin, both forms fully agree with one another, the inferior of the two lines which constitute this margin, being very indistinct and scarcely separated from the upper line. The lower margin of the orbits of *Gelas. lacteus* appears slightly convex, when the cephalothorax is seen from above, and distinctly crenulate along its whole length; the lower orbital margin of *Gelas. inversus*, however, is slightly concave in the middle and quite entire, except towards its external rounded angle, which appears somewhat crenulate. In both species the orbits present no trace of an accessory row of granules near the lower orbital margin.

The larger chelipede of the male is characteristic. The anterior margin of the arm is somewhat granulate in *Gelas. lacteus*, but in *Gelas. inversus* this margin is dilated distally in a longitudinal lamellate crest, which appears somewhat denticulate. The upper surface of the wrist is somewhat granulate, its inner margin finely denticulate, its outer surface nearly smooth. The larger hand has about the same form in both species, being three times as long as high, and the fingers being scarcely more than once and a half as long as the palm.

In *Gelas. inversus* the palm is a little longer than high, which is also the case in the other species. The upper border of the palm is slightly rounded in the Japanese species, but in *Gelas. inversus* this border is somewhat flattened, though also granulated, and separated externally from the outer surface of the palm by a longitudinal row of granules. The upper half of the outer surface of the palm is rather coarsely granulated, but in *Gelas. lacteus* this granulation is much finer: in both species the greater under half of the palm appears smooth for the naked eye, very finely granulate under a lens of sufficient power. The lower sharp margin of the palm is distinctly granulate in *Gelas. inversus*, but very finely so in the other species. The fingers are smooth for the naked eye, and present about the same form and length in both species. They are nowhere furrowed, neither in *Gelas. lacteus* nor in *Gelas. inversus*.

The granulation at the base of the dactylus is a little coarser in the species of Hoffmann than in the other. The mobile finger of *Gelas. inversus* is constantly armed with a triangular prominent tooth at the distal extremity; in some specimens the granulated internal margin of this finger presents still a second smaller tooth a little beyond the middle, and a few somewhat prominent granules near the base, but in other specimens only the distal tooth of the dactylus exists. This distal tooth is not found in *Gelas. lacteus*. The dactylus is only slightly arcuate towards its extremity. The lower finger or index is nearly straight, scarcely directed upwards at the pointed extremity. The granulated and straight inner margin bears in *Gelas. inversus* only one single tooth, which lies immediately before the middle, and no teeth exist at the distal extremity; *Gelas. lacteus* presents also a small tooth a little before the middle, but the inner margin is somewhat arcuate immediately before the tip.

The inner surface of the palm is highly characteristic of this species. There is namely no trace of the more or less oblique granulated ridge, which in nearly all other species of this genus borders the under surface of the palm, proceeding in an oblique direction from the articulation of the wrist to the base of the index, but the internal surface of the palm is, on this place, simply rounded, smooth for the naked eye, very finely granulated when seen under a magnifying glass. In *Gelas. lacteus*, on the contrary, there is, like in most other species, a prominent oblique granulated crest, defining the under surface of the palm. *Gelas. inversus* presents, however, one single row of prominent granules near the articulation of the mobile finger, but this row exists also in *Gelas. lacteus*. For the rest the inner surface of the palm and of the fingers appears smooth for the naked eye in both species.

The ambulatory legs are slender, almost in the same degree as those of *Gelas. lacteus*: so e. g. the meropodites of the last pair of legs of the latter have a length of $7^3/_4$ mm. and a breadth of $2^2/_5$ mm., those of *Gelas. inversus* respectively $7^1/_4$ mm. and $2^2/_5$ mm. The meropodites of the penultimate pair have a length of $8^1/_3$ mm., and a breadth of $3^1/_4$ mm. in *Gelas. inversus*, whereas these numbers are $10^1/_3$ mm. and $3^3/_4$ mm. in the Japanese species.

As will be seen when comparing my description with that of *Gelas. chlorophthalmus*, this species is quite distinct from *Gelas. inversus.*

Gelas. inversus Hoffmann has been collected on the shores of Mozambique and of the Island of Nossy-Faly.

21. *Gelasimus triangularis* A. M. E. var. *variabilis* de Man.

(Pl. 4, fig. 13).

Gelasimus triangularis, A. Milne Edwards, in: Nouv. Archives du Muséum, T. IX, p. 275.

Gelasimus triangularis, de Man, in: Journal of the Linnean Soc. of London, Vol. XXII, 1888, p. 119, Pl. VIII, figs. 8—11.

The Leyden Museum contains about forty specimens (♂, ♀) which were collected at Amboina. These individuals present some slight differences from specimens of *Gelas. triangularis* from the Mergui Archipelago, which I have before me and which are to be considered as to represent the typical form of this species, having been compared with type-specimens of the Paris Museum by myself when writing my »Report on the Mergui Crustacea".

As to the cephalothorax, I observe that the inferior margin of the orbits is a little less finely crenulate, especially externally, than in the Mergui specimens, and that an accessory row of fifteen or sixteen small granules exists on the lower wall of the orbits near the inferior margin, both in the male and in the female, which are not found in the Mergui form. In the second place the teeth with which the inner margins of the fingers of the larger hand of the male are armed, are placed otherwise than those which are found on the hands of the Mergui specimens. These teeth, indeed, are placed in the seven male individuals before me, on four different manners, and on this reason I named this variety »*variabilis*". In two specimens the lower finger bears two teeth which stand, on the proximal half of the margin, at a small distance from one another, the smaller tooth quite at the base, the second, which is slightly larger, immediately before the middle of the margin. The longer distal end presents fourteen or fifteen granules, the fifth of which (counting from the tip) is a little more prominent than the others. In these individuals the upper finger is armed, quite at the base, with two teeth which are smaller than the opposite teeth of the index, and with two or three prominent granules near the distal end.

In three other specimens the proximal smaller tooth of the two of the lower finger lies also quite at the base, but the other is found exactly in the middle of the margin. The upper finger presents several granules, like in the first variety, three or four of which are a little more prominent than the others. One specimen differs from the three last described ones only by the absence of the basal tooth of the lower finger, and in the last specimen, finally, the teeth are entirely absent on both fingers. In this specimen the row of granules at the inner surface of the palm near the base of the fingers is not developed, in the other ones it is also less distinct than in the Mergui specimens.

The ambulatory legs are a little more slender than those of the type-specimens, the meropodites as well as the other joints appearing a little less enlarged.

The upper surface of the cephalothorax has a reddish gray ground-colour, and is marked with a few transverse purplish stripes. The larger hand is uniformly yellowish.

The occurrence of this variety at Amboina is to a certain degree remarkable, as the typical form occurs in New Caledonia and in the Mergui Archipelago.

22. *Metopograpsus messor* Forskål, var. *gracilipes* de Man.

(Pl. 4, fig. 14).

Metopograpsus messor, Forskål; de Man, in: Journal Linnean Society of London, Vol. XXII, 1888, p. 144, Pl. IX, fig. 11.

One young male from the Pacific Ocean was purchased from the Museum Godeffroy. This specimen agrees with the typical representatives of this species from the Red Sea, but the propodites of the ambulatory legs are a little more slender. I cannot decide whether this difference is individual or characteristic of those representatives of *Metop. messor*, which inhabit the Pacific Ocean, because I have only one single specimen before me. But when this slight difference might indeed prove to be proper to the specimens of the Pacific Ocean, then I propose to designate this form as a variety under the name of *gracilipes*. The front is also a little narrower than in the type.

Dimensions:	♂	
Distance between the external orbital angles .	20	mm.
Length of the cephalothorax	15	»
Breadth of the front	$12^{2}/_{5}$	»

23. *Grapsus maculatus* Catesby.

Grapsus maculatus, Catesby; H. Milne Edwards, l. c. p. 167, Pl. VI, fig. 1.

This species is at present regarded to be one of the most widely distributed forms and to occur both in the Atlantic and in the Indopacific Regions. I must, however, remark that a young sterile female specimen from Djeddah, Red Sea, differs from female specimens of equal size from the West-Indies, which I have before me, by the postfrontal lobes, especially the internal ones, projecting somewhat less forward. The cephalothorax of this Djeddah specimen has a length of 33 mm.

The Leyden Museum contains also an adult male of this species, from the Gulf of California. This specimen, the cephalothorax of which has a length of 63 mm., fully agrees with the specimens from the Bahama Islands and the Antilles, but the coloration is somewhat different. The upper surface of the cephalothorax has, especially on the gastric and branchial regions, a violet colour and the pale spots are much less numerous, more distinctly defined and not confluent. The anterior legs as well as the ambulatory ones are of a bright red, more or less mixed with yellow, especially on the posterior legs, and the pale spots are here also few in number and not confluent.

24. *Sesarma Büttikoferi* de Man.

Sesarma Büttikoferi, de Man, in: Notes from the Leyden Museum, Vol. V, 1883, p. 163.

A male and a female from the Junk River, Liberia.

The male specimen is of a somewhat larger size than the original type-specimen described by me in 1883. As to the female, I observe that the hands are comparatively much smaller than those of the male. In the adult male the palm projects considerably outward beyond the carpus, and the fingers measure only a third of the whole length of the hand, the palm being twice as long as the fingers. In the female, however, the fingers are still a little longer than the palm and the latter is not at all produced outward beyond the carpus; but the outer surface of the hands is flattened as in the male, and the other characters are also nearly the same.

Measurements:	♂	♀
Distance between the external orbital angles.	$15^{1}/_{3}$ mm.	$11^{2}/_{3}$ mm.
Length of the cephalothorax . . .	$12^{1}/_{5}$ »	$9^{1}/_{3}$ »
Breadth of the upper margin of the front	$9^{1}/_{3}$ »	7 »
Length of the hands	15 »	$6^{1}/_{4}$ »

25. *Sesarma Germani* A. M. E.

Sesarma Germani, A. Milne Edwards, in: Nouv. Archives du Muséum, T. V, Bulletin, p. 28.

Sesarma Germani, de Man, in: Zoolog. Jahrb. herausgegeben von J. W. Spengel, Bd. II, 1887, p. 651.

This species is identical with *Sarmatium crassum* Dana; Milne Edwards informs me that he is of the same opinion. I was enabled to study a typical male specimen of *Ses. Germani* of the Paris Museum, and I cannot find any important difference between this form and Dana's species. Milne Edwards says that the antero-lateral margins present two teeth, including the external orbital angle: I observe, however, a small, though distinct, second emargination, so that the antero-lateral margins present three teeth. The second lobe is almost twice as long as the first, formed by the external orbital angle. These teeth or lobes are slightly rounded, and the third is very small and may easily be overlooked. The inferior margin of the front is slightly emarginate in the middle.

The internal angle of the carpopodite of the anterior legs is acute. This species, finally, at first sight may be recognized by the six or seven parallel, transverse and smooth, characteristic crests or ridges, with which the upper margin of the palm is ornamented.

It is to this species that I now refer, with some doubt however, a young female specimen from the Pacific Ocean because it presents some slight differences from the male. The antero-lateral margins present no trace of the second emargination behind the external orbital angles, and the transverse furrows on the upper margin of the palm, which are characteristic of the male, are only represented by a few transverse rows of impressed points.

Measurements of this specimen:	♀
Distance between the external orbital angles .	$8^{2}/_{5}$ mm.
Greatest width of the cephalothorax. . . .	$11^{1}/_{4}$ »

Length of the cephalothorax	$9^2/_3$ mm.
Breadth of the front	$4^1/_2$ »

Dana's specimen was collected on the Samoa Islands, that of Milne Edwards on Pulo-Condore.

26. *Sesarma oceanica* de Man.

Sesarma oceanica, de Man, in: Zoolog. Jahrb. von J. W. Spengel, Bd. IV, Abth. f. System. 1889, p. 429, Taf. X, fig. 9.

A male specimen collected at Tjibodas, in the interior of the Island of Java, and two young females without eggs from an unknown locality.

The male is larger than those of my original description (see the measurements). The small tubercles at the lower margin of the front are wanting in this specimen. The upper margin of the mobile finger is till near the extremity covered with small acute teeth with horny tips.

This species is most closely allied to *Ses. dentifrons* A. M. E. from Upolu. Prof. Milne Edwards sent me an unpublished drawing of this species, and this drawing presents a so striking resemblance with my *Ses. oceanica* that I suppose the two species to be identical. After having sent, however, the male from Tjibodas to Prof. Milne Edwards, this learned carcinologist wrote me that he still considers *Ses. dentifrons* to be a distinct species, distinguished by the frontal margin being armed with four or six small tuberculiform teeth. Unfortunately the single original specimen of *Ses. dentifrons* does not make part of the Paris collection, having belonged to the Museum Godeffroy in Hamburg, and I do not know where it is at present. I have, however, described very small frontal tubercles in the type-specimens of *Ses. oceanica*, and as these specimens had only a third of the size of *Ses. dentifrons*, it is very probable that the frontal teeth were still too little developed. In the very young female specimen of the Leyden Museum they are already distinctly visible.

Dimensions of the male from Tjibodas:

	♂	
Distance between the external orbital angles	$18^{2}/_{5}$	mm.
Greatest width of the cephalothorax. . . .	$22^{1}/_{3}$	»
Breadth of the upper margin of the front .	$8^{3}/_{4}$	»
Length of the cephalothorax	$21^{1}/_{2}$	»

Sesarma oceanica de Man has been found on the Islands of Ponapé and of Java.

27. *Heterograpsus crenulatus* Guérin.

Heterograpsus crenulatus, Guérin; H. Milne Edwards, in: Annales des Sciences Naturelles, T. XX, 1853, p. 193.

A male from New Zealand was presented in 1878 by Milne Edwards to the Leyden Museum under the name of *Heterograpsus barbimanus* Heller. As Miers and Filhol have, however, pointed out, this species is identical with *Heterogr. crenulatus* Guérin.

Heterogr. crenulatus is closely allied to *Heterogr. penicillatus* de Haan (confer de Man, in: Notes from the Leyden Museum, T. I, p. 71). The differences are the following: The cephalothorax of the Japanese species is broader anteriorly, the distance between the external orbital angles being greater in proportion to the length of the cephalothorax than in *Heterogr. crenulatus.* The front of *Heterogr. penicillatus* is exactly half as broad as the greatest width of the cephalothorax and comparatively broader than in the other species. The upper surface of the cephalothorax of *Heterogr. penicillatus* is nearly smooth and only minutely punctate, showing only a few granules on the postfrontal lobes, on the protogastric regions on each side of the shallow bifurcated frontal furrow, and a few also on the antero-lateral parts of the upper surface. This fine granulation is much more distinct in *Heterogr. crenulatus*, in which the greatest part of the upper surface is covered with granules, the cardiac region only being smooth.

The antero-lateral teeth present the same form and size in both species. The margins of these teeth, of the orbits and of the front are a little more coarsely granulated in *Heterogr. crenulatus* than in the other, and the posterior margin of the cephalothorax is a little broader than the anterior margin of the front, but in *Heterogr. penicillatus* the front is distinctly broader than the posterior margin.

The impressed line on the second joint of the external maxillipedes proceeds closer to the internal margin in the Japanese species than in the other, its distance from the internal margin being a fourth of the breadth of the joint in *Heterogr. penicillatus*, but two fifths of it in *Heterogr. crenulatus*, when measured in the middle of the joint. The external margin of the third joint appears more straight and less arcuate in *crenulatus* than in the other; and is also a little more distinctly emarginate at its posterior end than in *penicillatus.*

The carpopodite of the anterior legs of *Heterogr. penicillatus* is armed with an acute tooth at its inner angle, but only with a prominent granule in the other. The upper surface is a little more distinctly granulated and the antero-internal surface a little more hairy than in *Heterogr. penicillatus.*

The hands have quite the same form in both species; like the wrist they appear smooth for the naked eye, but the fine granulation which they present under a magnifying-glass, is somewhat more distinct in *Heterogr. crenulatus* than in the other. Nearly the whole inner surface of the palm and of the fingers of *Heterogr. crenulatus* is covered with hair, but these hairs do not occur on the outer side of the fingers. In *Heterogr. penicillatus*, on the contrary, the fingers are clothed at their bases with hair on the inner as well as on the outer surface, and the tuft of hair on the inner side occupies only a small part of the inner surface of the palm, extending neither to the upper nor to the under margin.

The ambulatory legs present about the same form in both species, but the meropodites of *Heterogr. penicillatus* are armed at the distal end of the upper margin, with an acute tooth, which is not found in the other species. The ambulatory legs of *Heterogr. crenulatus* are very hairy, not only along the anterior margin of the meropodites, but also along the anterior and posterior margins of the following joints. The ambulatory legs of the Japanese species are described by de Haan as glabrous in the male. This is not quite exact. The meropodites are hairy along their anterior margin, but the following joints are clothed, especially along their margins, only with numerous small tufts of very short dark-coloured hairs, the long hairs of *Heterogr. crenulatus* are entirely wanting.

Heterogr. penicillatus is marked on the cephalothorax as well as on the legs with small round red spots.

This species inhabits Japan, and extends until Amoy and Hongkong, *Heterogr. crenulatus* inhabits the coasts of New Zealand.

I add the measurements of the two species:

	penicillatus.		*crenulatus.*	
	♂		♂	
Distance between the ext. orbit. angles	$17^{1}/_{4}$	mm.	15	mm.
Greatest width of the cephalothorax.	$20^{1}/_{2}$	»	$19^{1}/_{3}$	»
Breadth of the anter. marg. of the front	$9^{3}/_{4}$	»	$7^{2}/_{3}$	»
Length of the cephalothorax	$17^{1}/_{2}$	»	17	»
Breadth of the posterior margin of the cephalothorax	$8^{1}/_{4}$	»	8	»

These two species differ from *Heterogr. crassimanus* Dana from the Sandwich Islands, which may be identical with *Heterogr. maculatus* M. E., by the more hairy legs, especially by the hands which are clothed with hair at the base of the fingers.

Heterogr. nudus Dana from San Francisco is closely allied to, but may be distinguished from *Heterogr. penicillatus* by the almost glabrous ambulatory legs, which are less slender and the meropodites of which present no tooth at the distal end of their upper margin. It differs from *Heterogr. crenu-*

latus also by its almost glabrous ambulatory legs; the inner surface of the palm of the anterior legs of the male is almost entirely clothed with hair in *Heterogr. crenulatus*, whereas in *Heterogr. nudus* the base of the fingers only is hairy, as in *Heterogr. penicillatus*. The ambulatory legs, especially the dactylopodites, are likewise more slender in the species of Guérin, than in *Heterogr. nudus*, if Dana's figure is correct.

I must, finally, observe that Kingsley (Proc. Acad. Nat. Scienc. of Philadelphia, 1880, p. 208) is quite wrong in uniting *Heterogr. nudus* with *Heterogr. sanguineus* de Haan, for in this latter species the hands are quite naked, without a tuft of hair on the inner surface, the wrist of the anterior legs presents an acute tooth at the inner angle, and the meropodites of the ambulatory legs are armed with a sharp tooth at the distal end, whereas those of *Heterogr. nudus* appear to be unarmed.

Heterogr. maculatus M. E. may be identical with *Heterogr. sanguineus* de Haan. *Heterogr. crassimanus* Dana also may be identical with the species of the »Fauna japonica", but the merus-joint of the outer foot-jaws appears more enlarged and more dilated externally, with a more convex outer margin in the species of Dana, and the penultimate joint of the abdomen in the male is shorter in proportion to its breadth. Moreover, in Dana's figure, the carpus of the anterior legs does not present the sharp tooth at the inner angle, which exists in *Heterogr. sanguineus*.

28. *Heterograpsus spinosus* M. E.

(Pl. 4, fig. 15).

Heterograpsus spinosus, H. Milne Edwards, in: Annales des Sciences Naturelles, T. XX, 1853, p. 194. — A. Milne Edwards, in: Journal des Museum Godeffroy, Héft IV, 1874, p. 6.

A young male and an ova-bearing female from Upolu. This rare species may be easily recognized by the characteristic shape of the cephalothorax. This latter is a little broader than long, its upper surface is very slightly convex transversely as well as in the antero-posterior direction, especially in the female. The regions are tolerably well indicated and defined by distinct, though shallow grooves. The upper surface is minutely granulated anteriorly and on the mesobranchial regions, for the rest smooth and somewhat finely punctate. The front is strongly deflexed, and the anterior margin appears nearly straight; the epibranchial (or internal post-frontal) lobes are separated from one another by the rather deep median furrow, which is bifurcated as usual. The hepatic region is somewhat concave. The orbits are large. The antero-lateral margins, which in the other species of this genus appear more or less convex, are, on the contrary, slightly concave in *Heterogr. spinosus*; they are armed moreover behind the acute and prominent external orbital angle with three subequal, somewhat spiniform and comparatively small teeth; the first tooth, formed by the external orbital angle, is as long as the three posterior teeth together. The cephalothorax has therefore its greatest breadth at the fourth antero-lateral teeth. The postero-lateral margins are nearly straight and slightly converge backwards. The external maxillipedes leave a small rhomboidal gape between them, about as wide as those of *Heterogr. sanguineus* de Haan and several other species. Kingsley in his »Analytical key to the genera of Grapsidae" (Proc. Acad. Nat. Scienc. of Philadelphia, 1880, p. 188) divides the genera according to the presence or absence of the rhomboidal gape between the external foot-jaws, and refers the genus *Heterograpsus* to that section in which the outer foot-jaws are not gaping. He is evidently wrong in doing so, and it would perhaps have been better to have made no use at all of this character. The external foot-jaws of *Heterogr. oregonensis* Dana leave no hiatus between them, and Dana, for that reason, brought this species to another genus *(Pseudograpsus)* and referred those with gaping maxillipedes to the genus *Hemigrapsus*. I am also inclined to refer these forms to different genera.

The inferior margin of the orbits of the male is entire and appears only very minutely granulated when seen under a strong magnifying-glass.

The carpopodite of the anterior legs is rounded and unarmed at the internal angle. The hands are quite smooth, but the slightly gaping fingers are provided with a patch of hair externally as well as internally.

The ambulatory legs are rather slender. The meropodites are armed with an acute tooth at the distal end of their upper margin. The propodites and dactylopodites of the male are tomentose along their inferior margin; the toment has its greatest development on the propodites and dactylopodites of the first pair, and gradually diminishes on those of the other legs.

This species, on account of its more strongly deflexed front and slightly concave antero-lateral margins, is quite different in appearance from its congeners.

I give the measurements of the two quoted individuals and of a male type-specimen from Australia of the Paris Museum.

	1. ♂ mm.	2. ♂ mm.	3. ♀ mm.
Distance between the ext. orbit. angles .	$13^2/_3$	$10^1/_2$	$12^1/_3$
Greatest breadth of the cephalothorax .	$15^3/_4$	$11^1/_2$	14
Length of the cephalothorax	$13^1/_4$	$10^1/_3$	$11^2/_3$
Breadth of the front	$7^2/_5$	$5^4/_5$	$6^3/_4$

N⁰. 1 is the original specimen of the Paris Museum, N⁰. 2 and 3 are the Leyden specimens.

Heterograpsus spinosus, a rare species, has been recorded from Vanicoro and Australia.

29. *Calcinus intermedius* de Man.

Calcinus intermedius, de Man, in: Notes from the Leyden Museum, Vol. III, 1881, p. 102.

I consider this species to be identical with *Calcinus latens* (Rand.) Dana, finding no difference of any importance between the original specimen of *intermedius* from Djeddah, Red Sea, and a specimen from Tahiti, which I formerly referred to Dana's species. The granules with which the fingers of the larger hand are covered, are more flattened and less prominent than in the Tahiti specimen, but this may perhaps be ascribed to the larger size of the Red Sea specimen, in which the granules are more worn of. This species may be distinguished both from *Calc. elegans* M. E. and *Calc. nitidus* Hell. by the quite different coloration, as well as by the lower margin of the left hand being sharp and granulate, and by the dactylopodites of the second and third pair of legs being more slender and almost as long, but not shorter than the propodites. The fingers of the larger hand are also but finely granulate and they are not provided with the larger tubercles which are characteristic of *Calc. elegans*.

This species may at first sight be recognized by the dark violet coloration of the basal half of the dactylopodites of the second and third pair of legs; these legs are clothed with some tufts of hair especially on the last joints.

Calcinus latens has been recorded by Richters from Mauritius, and by Dana from the Indian Archipelago, the Fiji- and the Sandwich Islands.

30. *Pseudosquilla oculata* Brullé.

Squilla oculata, Brullé, in: Webb et Berthelot, Iles Canaries, Zool. Crust. p. 18, fig. 3 (1836—44).

Pseudosquilla oculata, Miers, on the Squillidae, in: Annals and Magazine of Natural History for February 1880, p. 110, Pl. III, fig. 3 and 4.

The Leyden Museum received two specimens of this Atlantic species from the Samoa Islands.

Prof. Milne Edwards enabled me to compare them with a type-specimen of Brullé's *Squilla oculata* from the Cape Verd Islands, and I cannot find differences of any importance between these specimens. I only observe that the eye-peduncles of the Samoa-specimens are a little more dilated at the distal end, and that the rostral plate is slightly more transverse and has the small median spinule comparatively a little longer than the specimen from the Cape Verd. The terminal joint of the antennular peduncle appears in the figure, published by Miers, to be about twice as long as the penultimate one; but in reality, in the Samoa-specimens, as well as in the Atlantic individual the terminal joint is only a little longer than the preceding one.

The larger specimen measures a little more than 5 centim. in length.

As we know, still another species of this genus appears as widely distributed, occurring both in the Pacific and Atlantic oceans, viz.: *Pseudosquilla ciliata* Miers, which I consider to be specifically distinct from *Pseudosquilla oculata* Brullé.

Middelburg, April 1890.

EXPLANATION OF THE PLATES.

PLATE 1.

Fig. 1. *Actaeodes pubescens* M. E., outer view of the hand of the young male, × 3.

„ 2. *Etisodes frontalis* Dana, adult male, × 2; *2a*, larger hand of the male, × 2.

„ 3. *Epixanthus subcorrosus*, n. sp., female, × 2.

PLATE 2.

„ 4. *Epixanthus frontalis* M. E., female from the Mergui Archipelago, × 2.

„ 5. *Gelasimus vocans* M. E., larger hand of a male specimen from Atjeh, Sumatra, × $1^{1}/_{2}$; *5a*, larger hand of the male from Samoa, which belongs to the variety *cultrimana* Ad. & White, × $1^{1}/_{2}$.

„ 6. *Gelasimus tetragonon* Herbst, adult male from the Samoa Islands, × $1^{1}/_{2}$.

PLATE 3.

„ 7. *Gelasimus arcuatus* de Haan, type-specimen from the Leyden Museum, front of a male, × 4; *7a*, larger hand of a male, similar to that figured by de Haan, × $1^{1}/_{2}$; *7b*, a variety of the larger hand of a type-specimen from the Leyden Museum, × $1^{1}/_{2}$.

„ 8. *Gelasimus coarctatus* M. E., front and orbit of a young male from Ponapé; *8a*, larger hand of the same individual, × $1^{1}/_{2}$.

„ 9. *Gelasimus forcipatus* (Ad. & White) de Man, outer view of the larger hand of a male from Celebes, × $1^{1}/_{2}$.

„ 10. *Gelasimus acutus* Stimpson, front and orbit of a male specimen from the Mergui Islands, × 3.

PLATE 4.

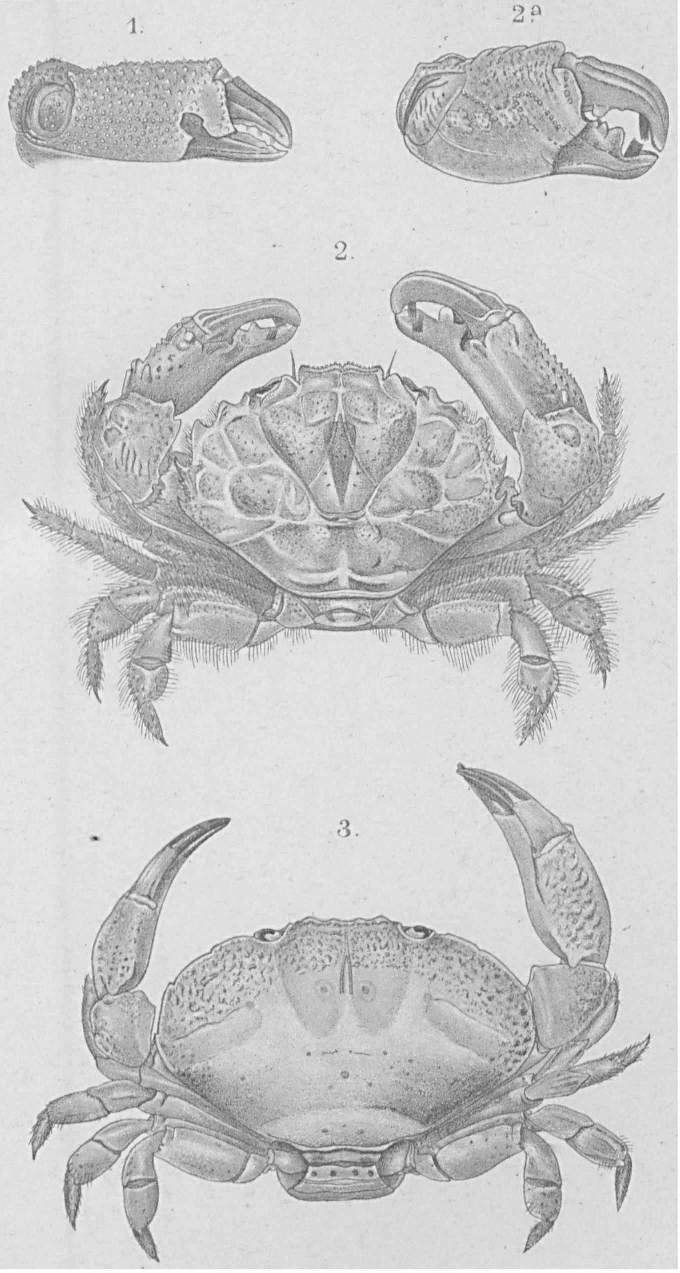
„ 11. *Gelasimus signatus* Hess, male from the eastern coast of Australia, × $1^{1}/_{2}$; *11a*, front and orbit of the same, × 3; *11b*, outer view of the larger hand of the same individual, × $1^{1}/_{2}$; *11c*, front of a male specimen from Batavia, belonging to the variety *angustifrons* de M., × 4.

„ 12. *Gelasimus inversus* Hoffmann, outer view of the larger hand of a male type-specimen from Nossy-Faly, × $1^{1}/_{2}$.

„ 13. *Gelasimus triangularis* A. M. E., var. *variabilis* de Man, outer view of the larger hand of a male from Amboina, × 2.

„ 14. *Metopograpsus messor* Forskål, var. *gracilipes* de Man, right leg of the penultimate pair of a male specimen from the Pacific Ocean, × 2.

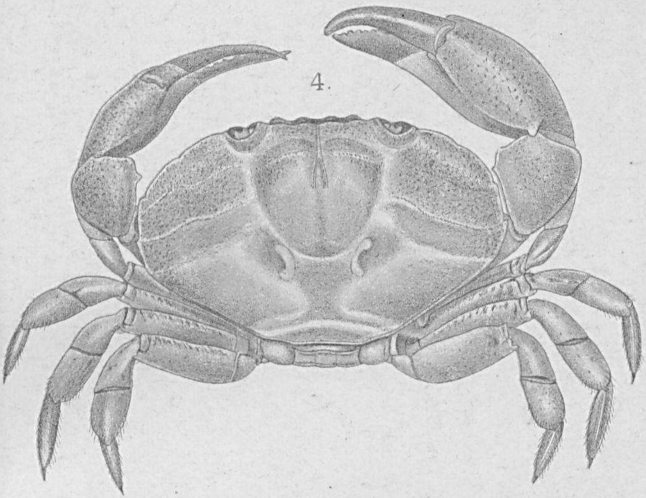
„ 15. *Heterograpsus spinosus* M. E., an ova-bearing female from Upolu, × 2; *15a*, outer view of the hand of the young male, × 4.



Dr. J. G. de Man del. A. J. J. Wendel lith. P. W. M. Trap impr.

1. Actaeodes pubescens *M. E.* 2. Etisodes frontalis *Dana*.
3. Epixanthus subcorrosus *de Man*.

4.



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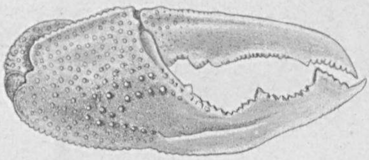
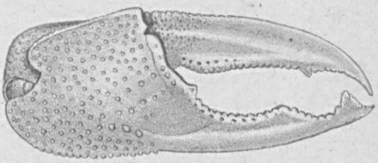


5a



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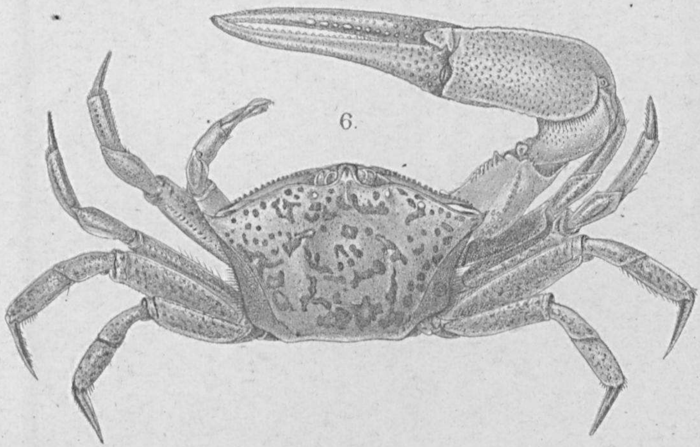

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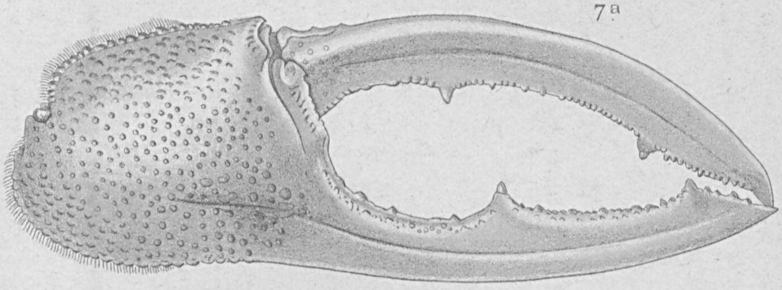
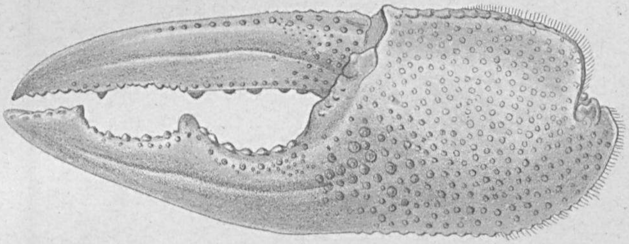
4. Epixanthus frontalis *M. E.* 5. Gelasimus vocans *M. E.*
6. Gelasimus tetragonon *Herbst.* 5*a*. id. *var.* cultrimana *Ad. & White.*

7^a



7^b



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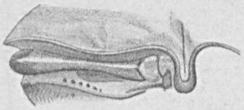

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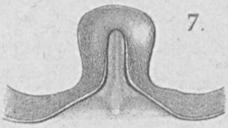
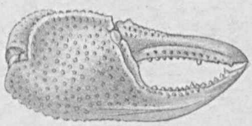


8^a



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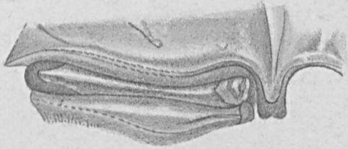
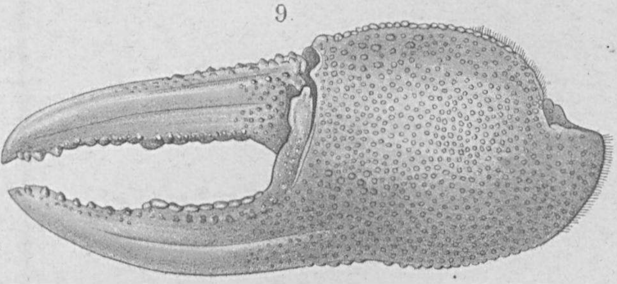


9.



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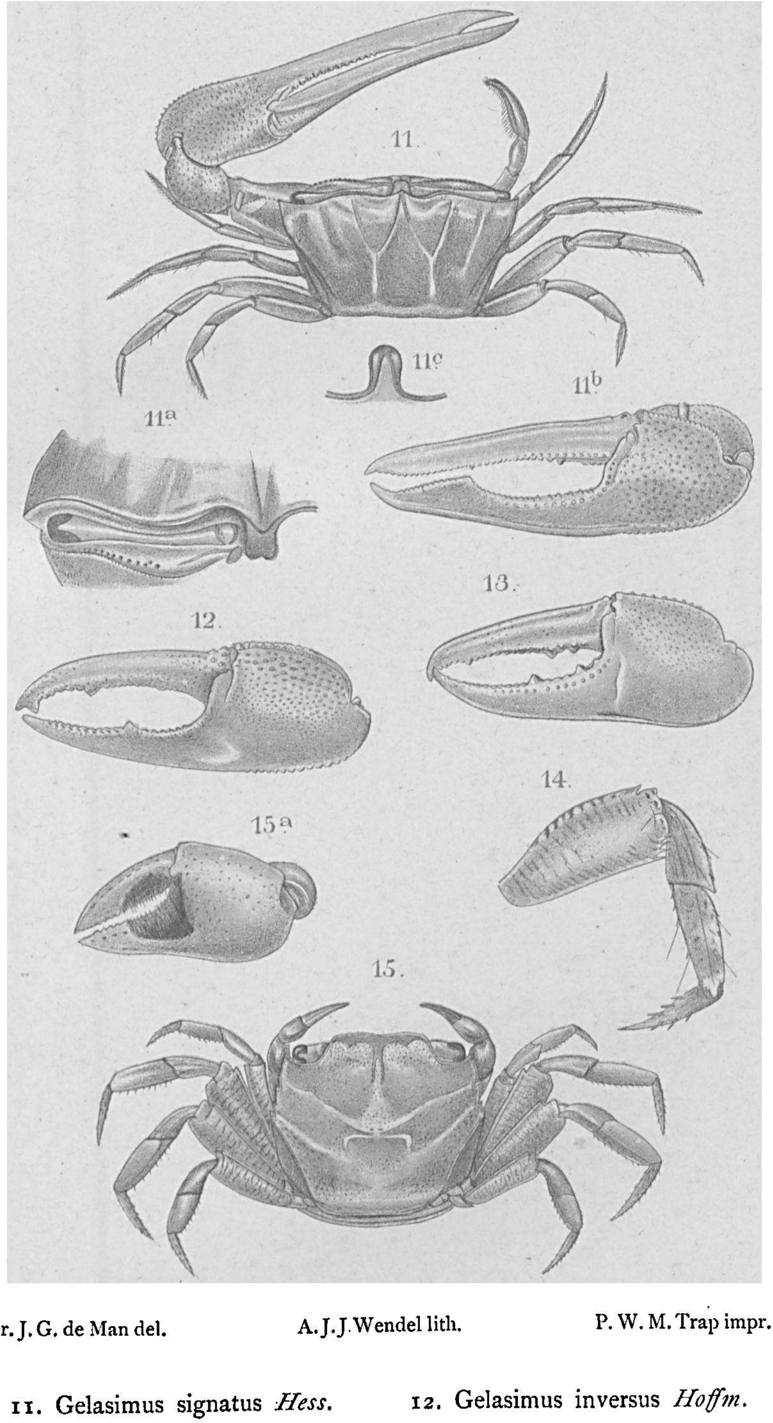
7. Gelasimus arcuatus *de Haan.* 9. Gelasimus forcipatus *Ad. & White?*
8. „ coarctatus *M. E.* (juv.). 10. „ acutus *Stimps.*

N. L. M. 1891. Plate 4.



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11. Gelasimus signatus *Hess.* 12. Gelasimus inversus *Hoffm.*
13. Gelasimus triangularis *M. E.*, *var.* variabilis *de Man.*
14. Metopograpsus messor *Forsk.*, *var.* gracilipes *de Man.*
15. Heterograpsus spinosus *M. E.*